



2014 Annual Fishing Newsletter



*Montana Fish,
Wildlife & Parks*

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INTRODUCTION

Once again, we proudly present our annual fishing newsletter as a way to share with anglers the actions Montana Fish, Wildlife & Parks takes to protect and enhance our fishery resources and fishing opportunities throughout the state. There are waters to please different types of angling interests, from cold water to warm water, and fly fishing to bait casting. There are places to harvest fish and places to pursue the trophy of a lifetime. Many of these attributes can be attributed to the quality of the fisheries habitat in Montana. Still, there are numerous challenges facing Montana's fisheries including climate change, habitat alteration, and dewatering of streams. Montana Fish, Wildlife & Parks is tasked with managing the state's fishery resources and addressing these challenges.



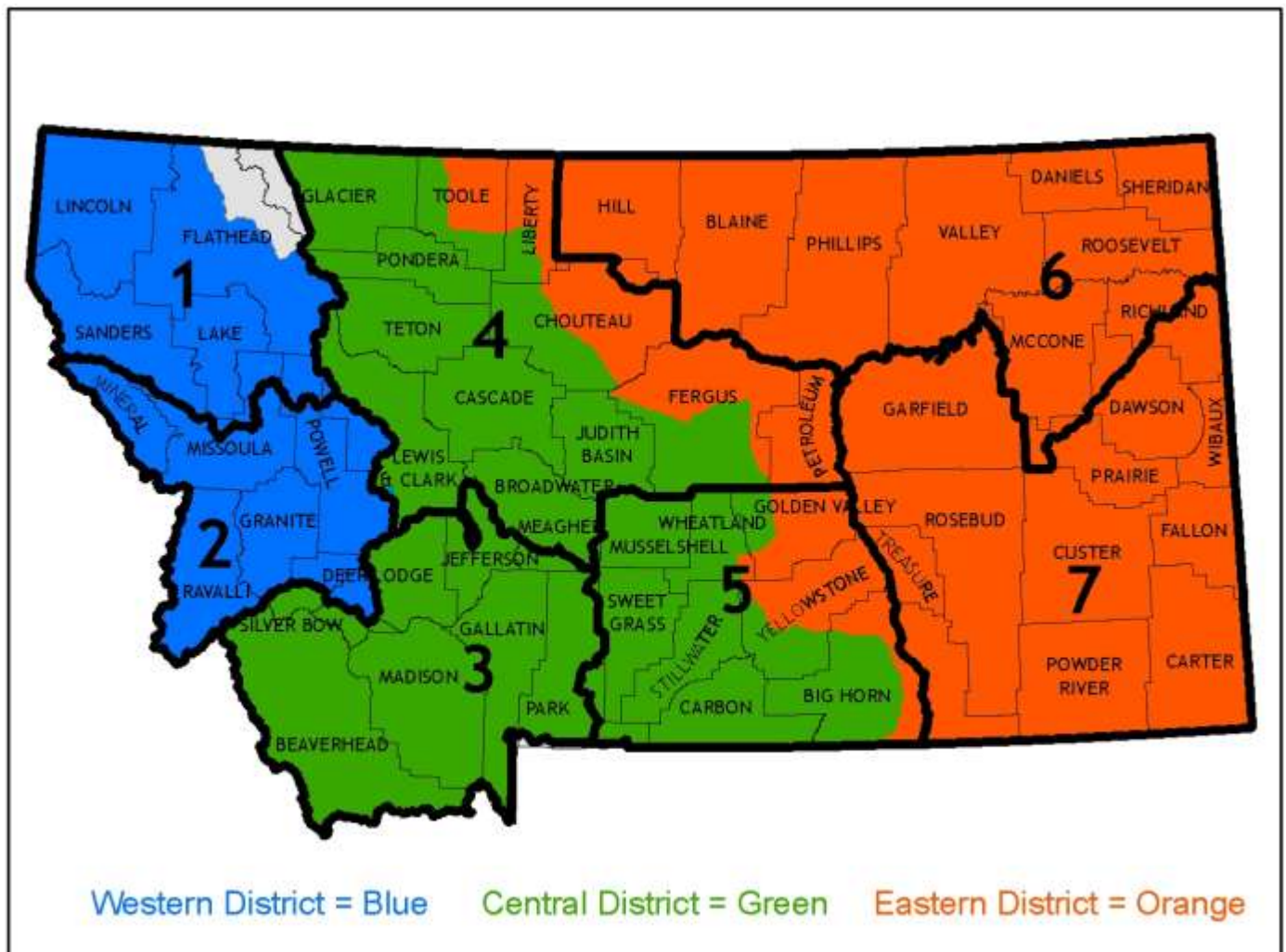
The articles in this newsletter share just a portion of the management practices used by FWP in 2013. It begins with a summary of fisheries management highlights from each of our seven administrative regions. This is followed by a description of the activities within the past year in our rapidly expanding Aquatic Invasive Species Program and at each of our 11 hatcheries within the state. We then top off the newsletter with highlights in the Fishing Access Sites Program throughout Montana's three Fishing Districts.

Until next year, we hope you will take every opportunity to enjoy and explore Montana's waters and renowned fisheries.

See you on the water,
Bruce Rich

Our fabulous cover photo was taken by Gretchen Strohmaier. She captured the youthful enthusiasm of her children, Liezel and Ezra, sporting their catch at a pond near Helmville.

FWP FISHING DISTRICT BOUNDARIES



FWP REGIONAL OFFICE LOCATIONS

<u>Headquarters</u> 1420 E. 6th Avenue Helena, MT 59620 406-444-2449	<u>Region 4</u> 4600 Giant Springs Road Great Falls, MT 59405 406-454-5840	<u>Butte Area Office</u> 1820 Meadowlark Lane Butte, MT 59701 406-494-1953
<u>Region 1</u> 490 North Meridian Road Kalispell, MT 59901 406-752-5501	<u>Region 5</u> 2300 Lake Elmo Drive Billings, MT 59105 406-247-2940	<u>Havre Area Office</u> 2165 Hwy 2 East Havre, MT 59501 406-265-6177
<u>Region 2</u> 3201 Spurgin Road Missoula, MT 59804 406-542-5500	<u>Region 6</u> Route 1 - 4210 Glasgow, MT 59230 406-228-3700	<u>Helena Area Office</u> 930 Custer Avenue W. Helena, MT 59620 406-495-3260
<u>Region 3</u> 1400 South 19 th Avenue, Bozeman, MT 59717 406-994-4042	<u>Region 7</u> Industrial Site West Miles City, MT 59301 406-234-0900	<u>Lewistown Area Office</u> 215 W Aztec Drive Lewistown, MT 59457 406-538-4658

REGION 1 NORTHWEST MONTANA

Jim Vashro Retires – Mark Deleray

Region One fisheries manager, Jim Vashro, retired after 39 years of service and over three decades in the Kalispell FWP office. Over his career, Jim worked in a wide variety of FWP fisheries positions including creel clerk, fish culturist, fisheries biologist, and regional fisheries manager. Jim successfully navigated the regional fisheries program including three large mitigation programs, increased native fish conservation efforts and provided many new recreational fishing opportunities.



Jim Vashro on the Flathead

Jim actively promoted education and public outreach projects. He reached out to volunteers to help improve fishing access sites, included school classes in fish planting, and personally led outdoor classes. Jim developed kids fishing events attended by hundreds of children and families that provided an introduction to fishing, many “first fish” for young, and not so young, anglers, and goodwill to the angling community. Jim has had a strong and lasting impact on future anglers in Northwest Montana.

Jim’s recent accomplishments include improving fishing opportunities by working with others to create new public access to regional waters, including sites at Lake Five, Church Slough and the Region One family fishing ponds. These ponds provide tens of thousands of angler days

annually. They provide safe and accessible fishing opportunity to youths and families. Some of the more popular ones are Pine Grove, Shady Lane, Nine Pipe, Troy, and Eureka ponds.

Throughout the years, Jim has done it all, from interagency negotiations, working with angler groups, teaching angling techniques, to building fishing docks. Jim exemplifies public and community service and has left a true legacy for future generations.

Parting Words of Wisdom – Jim Vashro

By the time you read this I will have retired after more than 3 decades as the Region 1 fisheries manager. As such, I hope you will tolerate some perspectives on my part. Montana is blessed with some of the best fisheries and aquatic resources in the US. It has been an honor and privilege to have been part of managing those. Having the best resources is no accident, Montana Fish, Wildlife & Parks has some of the most professional and dedicated biologists in the nation working to keep them that way. Montana also has many dedicated anglers and I’ve enjoyed working with you.



Passing on Traditions and a Way of Life to the Next Generation

“Fishing isn’t a matter of life or death, it’s much more important than that.” There’s more than a little truth there for most fishermen. And with that passion come ideas on how FWP should manage fisheries. I’m an avid fisherman myself, I enjoy talking to anglers and I think public outreach is one of a fishery manager’s most important jobs. FWP tries to build understanding and hopefully

public support for FWP programs. At the same time FWP relies on feedback from anglers on issues and problems out there and whether FWP messages are getting across. Anglers cover a lot of water that FWP does not annually sample and see things FWP may not see or in a different way. I often learned as much with a fishing rod in my hand as an electrode. You really need both to get a complete picture of a fishery.



Robert Brassfield's Flathead Lake Trout

But anglers are increasingly divided into factions and less tolerant of other fishing groups or more willing to trade away a fishery they don't value. Anglers need to recognize their common interests and work together. FWP has a dual mission of conserving aquatic resources (e.g., native fish) and providing recreational fishing. That juggling act is getting harder all the time with increasing human populations, and decreasing water, habitat and access. The Endangered Species Act plays an increasing role. I recently heard an angler tell his group that FWP had ignored their opinion on a resource issue, even though he served on at least 2 FWP advisory councils, received a number of personal responses on resource issues and brought about changes. He had been heard by FWP. If you submit comment you will be heard but you may not get your wish.

With polarized angler groups and conflicting jurisdictions it would be a miracle if everybody was happy all the time. In the Flathead Drainage in northwest Montana, fish and water can move from a foreign country (British Columbia, Canada), past or from Glacier National Park and 3 wilderness areas, national, state and corporate timberlands,

and a myriad of state, county, local and private land ownerships, the sovereign nation of the Confederated Salish and Kootenai Tribes and ultimately the state of Idaho. Add in three hydroelectric dams that affect about half of those waters, threatened bull trout and Species of Concern westslope cutthroat trout (Montana's state fish) and you have a complicated decision space.

FWP looks for public input by attending or hosting meetings, through advisory groups, increasingly through its website and social media, through preparing management plans, news releases and individual contacts with anglers and landowners. Often FWP will conduct an environmental assessment (EA) or in some cases an environmental impact statement (EIS) to fully disclose benefits and impacts of a proposed action and to encourage public input. But an EA or EIS is not a vote. FWP certainly recognizes and respects public opinion, but sometimes laws, policies and other jurisdictions dictate a tough decision that goes against popular sentiment. That doesn't mean you weren't heard or respected. In a good decision notice the rationale for the preferred action should be explained.



Mysis Shrimp

A case in point would be the introduction of mysis shrimp across the Pacific Northwest. In the 1960s, four pound kokanee started to appear in Kootenay Lake, British Columbia. The kokanee grew large on ½ inch Mysis shrimp as opposed to the pinhead sized zooplankton they normally ate. The public demanded similar introductions and fishery biologists went along without doing environmental

assessments. In 1968 Mysis were introduced in more than 100 North American lakes including a number of lakes in northwest Montana. Sportsman clubs and elected officials happily assisted with the plants and everyone settled back anticipating jumbo salmon.

Too late it was discovered that the Kootenay occurrence was an anomaly due to an upwelling current. In most lakes Mysis stayed deep and out of reach of kokanee but competed for zooplankton. So kokanee either got smaller or where there were predators like lake trout, the salmon disappeared. Mysis were not planted in Flathead Lake but were planted into Whitefish, Swan and Ashley lakes. Mysis washed downstream and were first detected in Flathead Lake in 1981 (with uncanny timing, the year I moved to the Flathead). With breathtaking speed Mysis permanently turned the ecology of Flathead Lake upside down,

Deep dwelling lake trout and lake whitefish increased, kokanee crashed, and bull and westslope cutthroat trout and native minnows declined.

The fishery has recovered to a lower but stable equilibrium but that has triggered intense debates by those who want the lake to be the way it was in the "good old days". But the "good old days" lake no longer exists. Angler groups and agencies are pitted against each other and there hasn't been a single week in the last 31 years that I haven't heard from someone about how FWP screwed up the system by planting Mysis. Think how different Flathead would be today if FWP had done an environmental analysis and chosen to not go long with popular public opinion 45 years ago?



Westslope Cutthroat

A case where FWP didn't follow popular sentiment involves the mountain lakes of the South Fork Flathead Drainage. The South Fork upstream of Hungry Horse Dam contains about half of what is left in Montana of pure, interconnected westslope cutthroat populations. That purity was threatened by non-native rainbow and Yellowstone cutthroat trout planted decades before in 21 lakes and were slowly dribbling down to hybridize with the westslope. After a 5 year EIS process FWP decided to proceed with replacing those non-native trout with pure westslope cutthroat despite the majority of public sentiment against that strategy. That decision was based on the need to protect a native species and keep it from being listed under the Endangered Species Act (ESA). Reasons for opposing the project included fears the fisheries would never recover, impacts on wilderness, impacts on non-target species, loss of recreation and cost. The project is now about 80 percent complete with complete success to date. The project was modified to reduce wilderness impacts and treatments were staggered to minimize the amount of recreation disruption at any one time. Non-target species were monitored before and after to assure no impacts. Anglers are now fishing the lakes treated first and are impressed with the good fishing and amazed to learn the history of the project. Public comments were used to modify the project in a good way. Although not inexpensive, in the long run if securing the South Fork keeps westslope cutthroat from being listed under ESA, it was money well spent.

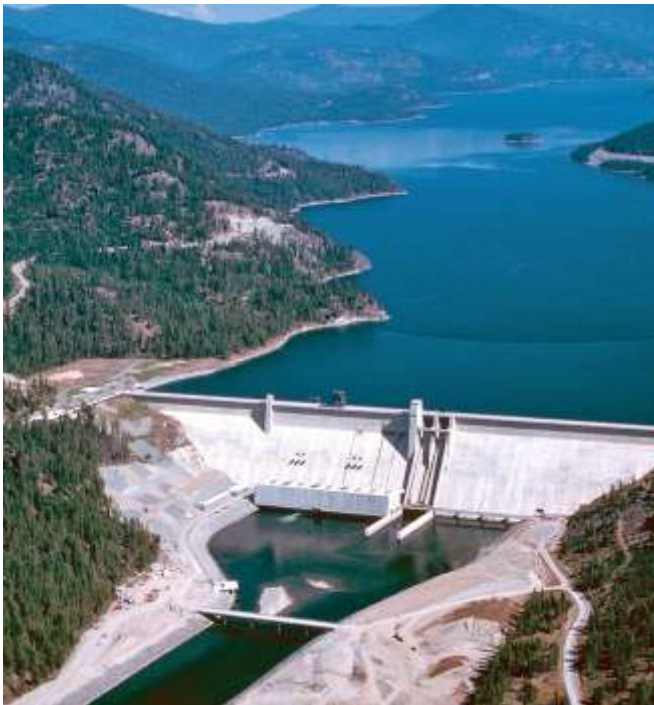
Illegal Fish Introductions

My parting words would not be complete without a mention of illegal fish introductions, my personal crusade for the last 25 years. I recently updated the list of illegal introductions in Montana adding 75 or so more reports to the 500 previously reported. The latest additions include many instances of smallmouth bass and black crappie being moved around western Montana. Actions to curb the impacts of those illegal introductions bring accusations that FWP is intolerant of various species. But a given body of water can only support so many pounds of fish (carrying capacity). When you add a new species something that was already there has to decline or disappear.

Remember the EAs discussed previously? Those are done to clarify the trade-offs of legal introductions. Illegal plants don't have EAs. Anglers that like the new species see it as a positive addition and anglers that liked the old species see it as a loss. In the long run illegal fish introductions sapped productivity out of nearly 300 waters across the state and increased management costs – and fishing license fees. Some anglers argue that the new fish created new fishing opportunity but overall fishing pressure usually doesn't go up and may even go down. In those 300 waters with illegal plants I can only think of two where fishing pressure really increased and they had low level fisheries to begin with. There is a new initiative to get anglers engaged over illegal fish introductions, redo policies and the rules behind them and create new strategies to combat this harmful practice. Watch for information over the next year and lend your thoughts and support.

Libby and Hungry Horse Dams – Brian Marotz

VarQ Flood Risk Management at Libby and Hungry Horse Dams is Benefitting the Fisheries



Libby Dam

VarQ is an improved flood management strategy implemented in the early 2000's at Libby and Hungry Horse dams. VarQ stands for variable discharge, and was designed to reduce reservoir drawdown and improve reservoir refill to benefit fish, while maintaining flood protection downstream. VarQ applies in all but the wettest years, when flood control converts to the "standard" procedure. In years when the inflowing water supply is in the mid-range (between 80% and 125% of average runoff), more water can be stored in the reservoir and used for multiple benefits during spring, summer and early fall. This allows the Kootenai and Flathead rivers downstream to more closely mimic the natural annual stream flow pattern, which is better for fish and wildlife habitat. Prior to VARQ, these reservoirs were often much lower by the end of the summer negatively impacting fisheries and recreation.

VarQ supports Montana's upstream needs while supporting downstream efforts to recover endangered species of salmon and steelhead in the lower Columbia. On the Kootenai, this helps the endangered Kootenai white sturgeon that are found between Kootenai Falls and Kootenay Lake in British Columbia and whose survival is a priority for both countries. VarQ better ensures higher reservoir levels in summer, enhancing recreation and healthier fisheries on both sides of the Canadian border. Below Libby Dam, both U.S. and Canadian fisheries benefit from river flows that more closely mimic the natural river flow. Montana has proposed improvements to the VarQ methodology at Libby Dam that would further increase the probability of Koocanusa refilling, address flood concerns downriver, and improve hydropower efficiency.

In the Flathead, VarQ helps stabilize Flathead Lake elevations in dry years and helps restore threatened bull trout, and native westslope cutthroat, upstream and downstream of the dam. The watershed upstream of Hungry Horse Dam contains about 50 percent of the remaining habitat for westslope cutthroat populations left in Montana.

For more information, contact Brian Marotz at bmarotz@mt.gov

Fisheries Habitat Conservation and Restoration – Kris Tempel

Healthy riparian corridors promote clean water, provide high quality habitat, and enhance connectivity among fish and wildlife populations. For these reasons, habitat conservation and restoration have long been cornerstones of sustainable fisheries management. Furthermore, habitat conservation typically provides long-term benefits that extend well beyond a project area.

In 2003, Bonneville Power Administration (BPA) began funding conservation easements and fee-title land acquisitions through Montana Fish, Wildlife & Parks' (FWP) Fisheries Mitigation Program to protect and promote healthy, native riparian areas for the benefit of native fish and wildlife within the Flathead drainage. The purpose of these efforts is to offset the loss of nearly 80 miles of spawning and rearing habitat for native trout attributable to the construction of Hungry Horse Dam. These BPA funded projects ensure that the land is protected in perpetuity to maintain and enhance riparian habitat which in turn will enhance native bull trout and westslope cutthroat trout fisheries. Through the Mitigation Lands Program numerous properties have been conserved for the benefit of fish and wildlife, including six recent land acquisitions in the Flathead basin. On these properties, BPA holds restrictive conservation easements that insure the properties will be protected for fish benefits. BPA funding is also used for FWP-held or third party-held conservation easements. For many third-party held conservation easements, we have included funding from other state and federal habitat programs such as the Natural Resources and Conservations Services' Farm and Ranch Protection Program. To date, FWP and partners have protected 3,500 acres and nearly 11 miles of river bank just within the Flathead River corridor above Flathead Lake. Partnerships with agencies, non-governmental organizations, and willing landowners continue to be critical to the success of land conservation along the Flathead River corridor.

Once a conservation easement is in place on a property, we implement native riparian/wetland habitat restoration or enhancement activities in conjunction with other partners and private



Aerial view of Foy's Bend Fisheries Conservation Area on the Flathead River near Kalispell, MT

landowners where applicable. We use a wide range of restoration techniques including riparian fencing in areas where livestock grazing has accelerated river bank erosion, planting of native trees and shrubs to reestablish vegetation and promote bank stability, and protection of existing mature willow and cottonwood groves. Where mature cottonwood and aspen stands exist, the stands can be expanded if areas around them are fenced to exclude deer and beaver browsing.

Restoration of fisheries habitat along the Flathead River can be challenging due to the highly erosive banks, fluctuating river levels, and the competition for plant survival with established non-native grasses. To address this challenge, FWP is currently working at Foy's Bend Fisheries Conservation Area (FCA) as well as on several other private Conservation Easement properties along the mainstem Flathead River to test the relative effectiveness of a range of riparian restoration techniques. We are investigating which methods are most cost effective and provide the greatest long-term survival of desired vegetation. Damage caused by foraging deer, beaver, and voles can add another layer of complexity to successfully establishing native riparian vegetation.

FWP has cooperated with Montana Department of Transportation (MDT), Region 1 Wildlife Mitigation Program, State Wildlife Grants Program, Big Sky Watershed Corps and community volunteers to restore more than 20 acres of riparian forest and stream bank habitat on the Foy's Bend FCA. MDT built 14 deer exclosures where they planted riparian trees and shrubs inside fenced areas.



Natural aspen regeneration promoted by deer exclosure fencing

They also completed a bank stabilization project on 1,350 feet of riverbank. FWP completed another six passive exclosures on other parts of the property next to existing aspen stands. Recently, FWP staff and volunteers constructed three experimental exclosures testing different treatments for grass competition and vole deterrents.



Fencing, for browse protection, of experimental cottonwood plot

FWP plans to collect three years of plant survival and growth information from these experimental plots to inform future restoration efforts. The knowledge gained on these projects will be useful for interested river landowners and other groups involved with riparian restoration along the Flathead River and beyond.



Spawning Surveys in the Flathead Show Positive Results for Bull Trout – Region 1 Biologists

Bull trout spawning surveys in eight North and Middle Fork Flathead River tributaries were completed by FWP between October 1 and October 10 and the results are encouraging. Biologists count the number of “redds” or nests built in streambed gravels by adult bull trout from Flathead Lake. Identical sections are counted annually and represent a known portion (about 45 percent) of the total bull trout spawning in the drainage. The entire drainage is counted every three to five years. This is the best estimate of the mature bull trout spawning run from Flathead Lake.



Bull Trout

This year’s basin-wide estimate of 500 redds indicates a stable bull trout population as reflected by the number of successfully spawning adult bull trout migrating upstream from Flathead Lake. The counts have been relatively stable over the past 15 years (about 3 generations of bull trout), averaging 434 redds. This year’s estimate of 500 redds is 66 percent above the minimum secure level of 300 redds calculated for the Flathead Lake bull trout population under the Flathead Lake and River Fisheries Co-Management Plan. Based on the average number of eggs per female, this translates to several million eggs deposited in the gravels of North and Middle Fork Flathead tributaries.

Mature bull trout migrate upstream from Flathead Lake in the summer, spawn in September, and then return to Flathead Lake in October after spawning. The young fish hatch and then live in the tributaries from 1-3 years before migrating downstream to Flathead Lake to grow to adults and complete the life cycle. Biologists estimate that about half the adult bull trout in Flathead Lake spawn each year.



A bull trout redd nest in Granite Creek, tributary of the Middle Fork Flathead River, October 1 2013. A female bull trout migrated 120 stream miles upstream from Flathead Lake to build this redd.

This year's estimate of 500 redds is 57 percent of the 1980's average, yet twice as high as the low level reached in the mid-1990s. This rebound is encouraging and indicates the current bull trout population is relatively stable. This was the 33rd consecutive year of index counts for the Flathead Lake bull trout population.

Thompson River – Ryan Kreiner

In the drought-plagued era of the mid-2000's, the Thompson River in Northwest Montana was often one of the first in the state to fall victim to summer angling restrictions. In 2013, climbing stream temperatures seemed destined to shut it down again. However, just as temperatures and flows were reaching that critical threshold, northwest Montana received a rare soaking of early August rains. As a result, flows in the Thompson River bumped up, temperatures cooled down, and the river was able to remain open without restriction.

For the past decade, FWP has monitored trout populations at two reaches on the lower to middle part of the Thompson River. Fish species present are primarily rainbow and brown trout with rainbows being slightly more abundant in the lower section and brown trout out numbering rainbows 2 to 1 in the middle section. Native species such as westslope cutthroat trout and bull trout exist in low densities, but are much more abundant in the tributaries. Total numbers of rainbow and brown trout (>7") ranged from 1200 to 1300 fish per mile in 2012. This number is

higher than estimates produced 5-10 years ago and may be the result of several good water years.



Rainbow Trout sampled in FWP Region 1

In 2013, we took the opportunity to explore a somewhat uncharted territory in the upper part of the river. The upper Thompson River is considerably different from the lower river. It is smaller in size and warmer, due to the fact that it is the outflow from a chain of lakes and most of the large tributaries enter down low. The upper river seemed to be growing in popularity and apparently for good reason. It was estimated that over 500 catchable ($\geq 7"$) trout and char exist per mile in this upper section. The species composition is approximately 85% brown trout, with lesser numbers of brook trout, rainbow trout, and westslope cutthroat trout.



Sweet Prince? or Pike Bait?

Lake Koocanusa Management – Mike Hensler and Jim Vashro

A Letter to the Editor took FWP to task for the poor fishing in Lake Koocanusa and apparent

inaction and hinted that anglers might have to illegally plant fish to get something done. The following information was sent to the letter writer after which he said he didn't understand all the background, he appreciated the response and FWP "should put this information in the newspaper".

Libby Dam impounded the Kootenai River in 1974. The resulting reservoir on the Kootenai River extends from Canada into the USA, hence Lake Koocanusa. The newly formed reservoir had tremendous fishing for the wild rainbow trout impounded by the dam initially as nutrients leached out of the flooded soils and a fertilizer plant in Canada added nutrients. The plant was cleaned up and then closed; nutrients and the rainbow fishery faded which is typical for most dams supplied by clean clear water. Our initial plan was to establish a westslope cutthroat fishery. We stocked millions of cutthroat from eyed eggs to 2 year old fish into the reservoir and tributaries. In addition, we rehabilitated a major spawning stream (Young Creek) and secured instream flows for two of the major inlet streams (Young Creek and Tobacco River).

Unfortunately, westslope cutthroat, especially hatchery reared fish, do not fare well in open systems like Koocanusa (they migrate downstream) and competition for food with abundant peamouth minnows and northern pikeminnow limited survival. In the early 1980's kokanee arrived via several years of unplanned releases from a British Columbia hatchery. In Koocanusa kokanee out competed westslope cutthroat trout for zooplankton in winter and aquatic insects in spring and summer and pretty much dealt cutthroat out.

Kokanee exhibit what is known as inverse density dependent growth, as numbers go up, size goes down. Those first few years were pretty amazing with 16" kokanee and 2 hour waits to launch at the boat ramps. Unfortunately, as kokanee abundance increased average size went way down (9" spawners in 2005). The kokanee are self-sustaining and all the spawning is in Canadian tributaries so FWP can't control numbers produced. In addition, Koocanusa's abundant population of peamouth and northern pikeminnows now compete with kokanee for the

same plankton and aquatic insect food source just like with westslope cutthroat trout.

FWP has taken a two-fold approach to kokanee. One, the daily limit was liberalized to 50 fish to reduce kokanee abundance. No indication that really worked on kokanee but it made fishermen happy. Second, we hoped to reduce the number of spawners through harvest, there doesn't appear to have been much effect there either. Flushing of salmon through the dam in winter can reduce abundance but isn't predictable. But, kokanee growth increased in size a little in 2012 and 2013. Most kokanee caught were around 12 inches in summer with a few as big as 16 inches were also caught; this also made fishermen happy. We believe a chain of events that included two consecutive years of exceptional snowpack, led to deep reservoir drawdown and high runoff with nutrient rich water which in turn led to greater numbers of bigger zooplankton and aquatic insects, essentially "food for all".

The other approach to kokanee abundance was to introduce a predator to both reduce kokanee numbers and produce a trophy fishery. British Columbia fisheries first introduced Gerrard rainbow trout in the early 1980's and FWP has been acquiring Gerrard rainbows, sometimes called Kamloops, from BC and stocking them since 1985. The Gerrards are from a Kootenay Lake stock that evolved with native kokanee and are known to get quite large from eating salmon. The Gerrards from British Columbia were very expensive which limited the numbers FWP could stock. BC also insisted the Gerrards be sterilized. BC is very concerned about potential hybridization with westslope cutthroat in tributaries in the upper Kootenai River drainage. FWP is still evaluating how sterilization affects Gerrard survival and growth but does share BC's concern over cutthroat hybridization.

BC announced this last winter they were phasing out their Gerrard broodstock. Through a series of negotiations and agreements FWP was able to get the broodstock and it is now at the Murray Springs Hatchery. Hopefully, that means FWP can increase stocking rates into Koocanusa. To track the performance of the Gerrards, FWP adipose fin clips every one before stocking to follow growth and survival. Essentially, Gerrards need to get big

so they can start feeding on kokanee so they can get bigger. It really doesn't make sense to harvest Gerrards when they are only a foot long if we want to establish a trophy fishery so a 22" minimum regulation on adipose clipped Gerrards hopefully ensures that some can survive to trophy size and hopefully eat some kokanee before they are harvested. A new problem is that housing the Gerrard brood takes a lot of space because they typically don't spawn until they are 4 years old or older, so as you might expect, this limits the number of fish the hatchery can produce.

As was mentioned earlier, there is a wild rainbow stock that was trapped upstream of the dam when it was built but they have limited reproduction. BC has requested that FWP not stock any generic rainbows because they could hybridize with cutthroat in the Wigwam, Elk and other rivers. FWP agrees with that due to the quality and value of westslope cutthroat so international cooperation plays a role in Koocanusa management and we will not stock any rainbow trout that are not native to the Kootenai River drainage.



Rainbow Trout from Lake Koocanusa

Another management issue for Lake Koocanusa is the bull trout population that is also international. Bull trout have reached recovery levels in Koocanusa and FWP was able to apply for and receive a permit from the US Fish and Wildlife Service to reopen recreational fishing while the fish was still listed under ESA, the first of its kind in the nation. Limited harvest was allowed under a catch card system. Unfortunately, as soon as fishing was reopened bull trout numbers took a plunge and the fishery had to go to catch and

release. Although harvest was limited it appears there is also catch and release mortality. In addition, there is an unknown but possibly increasing fishery for bull trout in the British Columbia portion of the reservoir and river. FWP is working with its Canadian counterparts to balance out the fishery and hopefully can start to reopen harvest.

The wild cards in all this are reservoir operations and water quality. Recent information indicates contaminants such as selenium flowing out of coal mining operations in BC greatly exceed water quality standards and may be impacting fish reproduction. EPA and Montana DEQ are working with Canada to curb pollution. FWP has worked with dam operators to smooth out reservoir fluctuations but the reservoir is operated primarily for power production and flood control and these operations may cut down on fish production. The Army Corps built the Murray Springs State Fish Hatchery as mitigation for the fish losses but the Corps limits what the hatchery produces and the recent inclusion of the Gerrard broodstock may further cut production.

FWP's goal has always been to improve fishing in Koocanusa even if it hasn't always worked out to the angler's greatest satisfaction. Hopefully the readers have at least a bit better understanding of the complex processes both natural and man caused that have led us where we are right now. It truly would be tragic if people thought they could improve the situation with illegal fish introductions. FWP has already recorded illegal lake trout and brown trout in the Kootenai River and pike are starting to show up in Koocanusa. Illegal introductions would just compound an already complicated fisheries management situation and would not improve fishing.

Management of Hybrid and Native Trout in an Open System – Amber Steed

The Flathead River system supports a variety of native fish species that have adapted over thousands of years to their surroundings, including westslope cutthroat trout, bull trout, and mountain whitefish, among others. However, non-native species like rainbow trout have been introduced more recently, compromising the persistence of our native westslope cutthroat trout through

hybridization and competition for resources. Currently, non-hybridized westslope cutthroat trout exist in less than 10% of their historic range in the United States and less than 20% of their historic range in Canada. Within Montana, the South Fork of the Flathead River drainage upstream of Hungry Horse Dam makes up about half of the remaining large, interconnected habitat for non-hybridized westslope cutthroat trout. The North and Middle forks of the Flathead represent another 25% of remaining populations in the state.



Electrofishing of selected tributary mouths in the upper Flathead River system to remove hybrid and rainbow trout.

Why should we worry about hybridization since many people enjoy fishing for hybrids and rainbow trout? There are several reasons FWP takes the loss of westslope cutthroat trout seriously. First, we may lose traits that have evolved in native species like westslope cutthroat trout, helping them thrive in their environment for thousands of years. Additionally, hybrids and rainbow trout may not play the same ecosystem role as westslope cutthroat trout, impacting other organisms as a result. Westslope cutthroat trout are a great sportfish and there are social and economic downsides to losing the opportunity to fish for them. Hybridization also increases the possibility of federal Endangered Species Act protection, affecting management of the species. And let's not forget, the cutthroat trout is our state fish.

So, what does this mean for management of rainbows, westslope cutthroat, and their hybrid trout offspring? Within the open Flathead River system (excluding the South Fork upstream of



Westslope cutthroat trout in the Flathead River system.

Hungry Horse Dam), we acknowledge that hybridization will probably always exist. However, slowing the spread and reducing its impacts to our remaining native westslope cutthroat trout is a realistic goal. To reach this goal, a reduction in the numbers of rainbow trout and hybrids is needed. FWP studied the spread of hybridization and identified its sources early by tracking fish to spawning areas using radio telemetry and by studying the genetic structure of fish across the drainage. One of the main sources, Abbot Creek, was targeted for rainbow and hybrid trout removal beginning in 2000, with four adjacent creeks later added to the effort.



Westslope cutthroat trout (above, to be released) and hybrid trout (below, to be removed) captured in the hybrid trout suppression project.

FWP conducted an Environmental Assessment in February 2013, describing hybrid suppression efforts to date and proposing future relocation of fish from the five identified sources. Fish removed have been transported to community fishing ponds like Pine Grove Pond to provide angling opportunities.

FWP continues the hybrid trout suppression with clear success criteria and goals identified. Though challenging scientifically, socially, and politically, the Flathead River Hybrid Trout Suppression Project offers a unique opportunity to assess our ability to conserve westslope cutthroat trout in an open river system. With encouraging results to date, FWP is using scientifically informed management to conserve a unique native species for all the values it represents today and into the future.

REGION 2 WEST CENTRAL MONTANA

Browns Lake – Ladd Knotek

Five year evaluation of rainbow trout stocking paying dividends at Browns Lake

Browns Lake (near Ovando) provides a productive, but historically inconsistent, rainbow trout fishery. Arlee and Eagle Lake strain rainbow trout are stocked annually as fingerlings and grow nearly an inch per month during their first year in the lake. However, oxygen depletion and warm summer temperatures have lead to inconsistent survival of hatchery plants and variable angler success. In 2008-2013, FWP biologists and hatchery managers teamed up to evaluate stocking strategies and ways to improve the fishery.



Rainbow Trout at Brown's Lake

Results of the study (Knotek & Schreck, In Preparation) indicated that success and

consistency of hatchery rainbow trout plants were improved by stocking slightly larger fish throughout the lake (boat plants), and by stocking both strains of trout in spring and fall. This diversification has led to higher trout survival over the course of the project and more reliable, quality fishing. The next challenge will be maintaining a trophy fishery component with increases in fishing pressure and harvest.

Seeley Lake – Ladd Knotek

Assessment of kokanee and westslope cutthroat trout stocking programs underway in Seeley Lake area waters

FWP currently stocks kokanee and westslope cutthroat trout in lakes throughout the Clearwater 'chain' (e.g. Alva, Inez, Seeley, Salmon & Placid Lakes) near the town of Seeley Lake. Maintaining quality fisheries has always been a challenge in these heavily-used waters due to the high biomass of non-game species (e.g. suckers, northern pikeminnow and peamouth chub) and numerous illegal fish introductions. Most lakes are currently stocked with high numbers of trout and salmon, and fisheries are typically characterized by smaller fish.



Early Morning Mist on Seeley Lake

Through marking of stocked fish, annual monitoring, and evaluation of stocking programs, we hope to improve diversity and fishery quality in the Clearwater chain of lakes, while protecting and enhancing native bull trout populations. This project was initiated in 2012 and will continue for the foreseeable future ... stay tuned.

Clark Fork River west of Missoula – Ladd Knotek

Consumption advisories issued for northern pike and rainbow trout on middle Clark Fork River west of Missoula

In October 2013, Montana Departments of Fish, Wildlife & Parks (FWP), Environmental Quality (DEQ), and Public Health & Human Services (DPHHS) jointly issued fish consumption advisories for northern pike (do not eat) and rainbow trout (4 meals per month limit) for the Clark Fork River from the Bitterroot River confluence (near Missoula) for approximately 120 miles to the mouth of the Flathead River (near Paradise). The advisories were issued in response to contaminant investigations in fish collected immediately downstream of the Smurfit Stone Container mill site near Frenchtown. Research in 2013 by FWP biologists (Schmetterling & Selch 2013) indicated elevated levels of dioxins, furans, polychlorinated biphenyls (PCBs) in trout and pike. Other species of fish and adjacent locations have not been evaluated, but are proposed for testing in 2014.



Northern Pike

Bitterroot Drainage – Chris Clancy

Streambank stabilization project at the Veteran's Bridge access site

In 2013 several projects were completed in the Bitterroot drainage. During March we completed a streambank stabilization project at the Veteran's Bridge access site. The site is owned by Montana Department of Transportation (MDT) and is a

convenient access to the river for anglers and other recreationists. The eroding streambank was threatening access to the boat entry point. The project was funded by FWP and MDT, with significant volunteer help from local volunteers, primarily from the Ravalli County Fish and Wildlife Association. The stabilization was accomplished primarily using soil lifts and willow cuttings (see photos, before and after).

Before



After



Boat Pass over the Corvallis Canal Diversion

A second project that improved boating safety was completed in September. A boat pass was built on the Bitterroot River over the Corvallis Canal Diversion. The grouted rock structure will allow boaters to float over the diversion. Previously, at most flow levels, floaters had to carry boats across the rip rap structure.

During the Spring and Fall of 2013, the outlet tubes of Painted Rocks Reservoir were in need of repair. Unfortunately, due to the design of the

spillway/outlet pipes, the dam could pass very little water for repairs to take place. During the repairs in October, FWP personnel and volunteers, mostly



Repair outlet tubes at Painted Rocks Reservoir

from local high schools were present to move any stranded fish into the water. The repairs took about 4 hours on 2 consecutive days. Most of the stranded fish were slimy sculpins, and a few small trout. No stranded adult trout were found.



Spillway at Painted Rocks Reservoir

Mortality of trout in Upper Bitterroot River

During 2012 and 2013, FWP biologists have floated the upper Bitterroot River to document mortality of trout. It appears that the mortality is caused by angler released trout during late July. This coincides with the warmest water temperatures of the year. Westslope cutthroat seem to be suffering higher mortality than the

other species of trout. It is not clear if the mortalities are high enough to affect the overall population of westslope cutthroat trout. FWP is looking into the need and ways to protect the cutthroat with angling restrictions.



Westslope Cutthroat Trout

Upper Clark Fork – Jason Lindstrom

The Upper Clark Fork fisheries management crew began the 2013 field season by conducting fish sampling on the upper Clark Fork River. We spent the month of April electrofishing four monitoring sections between Warm Springs and Gold Creek. This effort was completed as part of our annual monitoring of fish populations in the upper river.

Brown trout dominate the trout fishery in the upper Clark Fork making up approximately 99% of the trout in the river. Rainbow and westslope cutthroat trout are present throughout the river, but both species tend to be relatively uncommon.

Throughout much of the Upper Clark Fork upstream of Drummond, we typically measure brown trout densities in the neighborhood of a couple hundred fish per mile (for fish greater than 7 inches in length). The only exception to this is a short reach immediately below the Warm Springs Ponds, where fish density tends to be higher due to downstream effects of the highly productive pond system. In 2013, brown trout numbers in all sections of the upper Clark were above long-term averages. At most sites brown trout density was in the area of 500 fish (> 7") per mile, and below the Warm Springs Ponds brown trout numbers (> 7")

were close to 2,000 fish per mile. This is a value that has not been seen in many years in this area.



Upper Clark Fork River brown trout captured during spring sampling

It is likely that the increased densities of brown trout in the upper Clark Fork River observed in 2013 were a direct result of above average flow conditions in the couple years prior. Many of the fish observed in the 2013 sample that contributed to the above average densities reported here were younger, smaller fish, which indicated higher than average spawning success and survival in those good flow years. Unfortunately, the summer of 2013 proved to be an extremely low flow period in the Upper Clark Fork. At this time it unknown how this may have impacted fish survival in the river.

2013 also witnessed continued monitoring of the recovery of the Silver Bow Creek fishery. For many years this stream was incapable of supporting any kind of fishery due to widespread mining contamination that originated from the mines in Butte for over a century. However, since much of the stream has been cleaned-up through state-led remediation and restoration activities, we are beginning to see several fish species re-colonize Silver Bow Creek. Perhaps the most encouraging is the presence of westslope cutthroat trout. This native species has responded favorably to the clean-up and now occurs in high enough numbers to provide a limited recreational fishing opportunity. To help encourage the success of this species, FWP enacted a catch-and-release regulation for cutthroat trout in 2012 on Silver Bow Creek and its tributaries. The harvest of non-native species such brook trout

was not affected by the regulation change, and is actually encouraged to aid in westslope cutthroat trout recovery efforts in the drainage.

Finally, the Upper Clark Fork fisheries crew, with the help of several interested volunteers, continued its sampling of Warm Spring Pond #3 in 2013. This sampling was initiated in 2012 to assess the survival of stocked trout and determine if changes to our annual stocking program were necessary to benefit this popular fishery. Based on preliminary findings from 2012 it appeared that survival of stocked fish was rather limited, and could be related to harsh environmental conditions in the pond that are not necessarily conducive to trout survival. Densities of fish were found to be low, but those captured tended to be rather large, trophy-sized individuals. We altered our stocking program in 2012 because of what we saw in our sampling data. This resulted in more fish being planted and at multiple times during the year. Indications from anglers in 2013 were that catch rates were up, especially on younger fish. We will continue to monitor the fish population in this unique fishery for the next several years to determine if further changes to the stocking program are necessary.



Typical size rainbow trout from Warm Springs Pond #3

Granite County – Brad Liermann

A new fisheries study was initiated on the Clark Fork River in 2013. This work entails assessing fish populations in the drainage to monitor the benefits that remediation efforts on the Clark Fork River has on fish populations. This project is funded by the Montana Department of Environmental Quality which is the primary

agency responsible for remediation of the Upper Clark Fork River (remediation was initiated on the mainstem Clark Fork River in 2013). This study included completing fish population estimates on the mainstem Clark Fork River and collecting samples to assess age and growth of these trout populations in order to assess survival of various age classes of trout in the river.



Fish cages deployed in the Clark Fork River as part of a fisheries monitoring study being completed.

Another component of the study focused on juvenile trout in the river including the assessment of juvenile trout survival, water quality impacts on trout, and the abundance of metals in the tissues of juvenile trout. This study will likely continue through 2015 and final results of the study should provide substantially more information on the status of trout populations in the Clark Fork River. This study will also provide a quality baseline data set for assessing the effects of remediation in the future.

Due to moderately poor snow conditions and higher than normal early spring outflows, Georgetown Lake experienced low water conditions during 2013. This was particularly evident towards the end of irrigation season when reservoir levels approached two feet below crest, which is the level at which the Georgetown Lake fishery is considered to be in jeopardy during the winter. Due to Georgetown Lake being a relatively shallow, yet very productive reservoir, low dissolved oxygen levels are common during winter. In years when the reservoir levels are drawn down significantly and ice and snow cover the reservoir for an extended period, low dissolved

oxygen levels can occur throughout the profile of the reservoir (at all depths). Due to trout and kokanee requiring well oxygenated water, these conditions can significantly impact these populations. Fortunately, reservoir outflows have been reduced allowing the reservoir to slowly fill and improve conditions over the winter. Snow pack has also been relatively good thus far in the Georgetown area and models suggest that Georgetown Lake should either fill or nearly fill by next spring which is key to providing adequate water to protect this important fishery.



Male brook trout caught by an angler at Georgetown Lake in 2013.

Blackfoot River Report – Ron Pierce

Like many rivers in western Montana, the Blackfoot River was hit by drought during the summer of 2013. The drought reduced river flows and increased water temperatures to the point where these conditions triggered the use of the Blackfoot Drought Plan. As with all droughts, implementing a meaningful drought plan that protects fisheries is a difficult social process. Fortunately for the Blackfoot River the Drought Plan has the support of many irrigators and anglers who recognize the value of the working together to minimize adverse impacts to the river and those who rely on the river for their livelihoods. In 2013, about 90 irrigators have developed plan to help ease the impacts of drought. Following the drought, the Drought Committee has revised the drought plan to make more meaningful. Hopefully, the 2014 will be a better water year, and the plan can sit on the shelf.

The year 2013 marked the 25th -year of dedicated river restoration activities in the Blackfoot River Basin. River restoration began in 1988 when FWP studies found severely depleted fisheries in the Blackfoot River tied these problems in large part to broad habitat damage in the spawning tributaries. To date, meaningful restoration has now been completed on >50 tributaries thanks to hard work of cooperating agencies, conservation groups and especially the landowners who continue to participate in habitat improvements. Currently, restoration work focused on the Lincoln Valley and the surrounding mountains including the Helena National Forest.



This photo shows a contaminated segment of Bear Trap Creek, tributary to Blackfoot River. Beginning in 2014, the mining waste will be removed and a new channel reconstructed.

The upcoming 2014 year also marks a major milestone in the history of Blackfoot River Restoration with the removal of contaminated mining waste in the headwaters of the Blackfoot River. Here, the most significant environmental problem in the entire basin. The clean-up involves the removal of about 1,000,000 cubic yard of streamside mining waste, which has degraded water quality and fisheries in the upper Blackfoot River for decades. Following the removal, about three miles of stream will need to be reconstruction and restored to natural form and function. The clean-up is slated to begin in July and total project will take about four years to complete.

Another upcoming conservation project will be the development of a native trout restoration in the Scapegoat Wilderness upstream of the North Fork

Falls. The problem stems from historical lake plants of both rainbow trout and Yellowstone cutthroat trout. Currently the area upstream of the Falls hosts only hybrid fish, which threaten downstream cutthroat trout. These fish also offer low ecological value because hybrid populations appear to be at very abundance compared to nearby streams that support pure native westslope cutthroat trout. The problem is complicated and requires thoughtful consideration of how to proceed. Investigations are underway to develop the concept further.



The photo shows the North Fork Falls. Should the project move forward, this 50' waterfall will prevent nonnative trout from entering the headwaters.



**Montana Fish,
Wildlife & Parks**



Region 2 - Hidden Lake



Region 2 –Columbia Spotted Frog near Pass Lake



Man's Best Friend Inspecting Catch of the Day



Region 2 - Sculpin in Bitterroot River



Region 2- Angler Fishing Ripple Lake

REGION 3 SOUTHWEST MONTANA

Arctic Grayling Recovery Program – Emily Cayer

In 2013, Montana grayling conservation efforts included: initiation of recolonization efforts in the Upper Big Hole Watershed near Jackson, MT; continued efforts of one of the largest conservation programs at a watershed scale on private lands in the country; The Big Hole Arctic Grayling Candidate Conservation Agreement with Assurances Program (CCAA), completing grayling population genetic analysis to guide conservation efforts in the Big Hole and Red Rock grayling populations, and continued Ruby River grayling reintroduction monitoring.



Arctic Grayling

Upper Big Hole Grayling Recolonization

Historic grayling population data from the mid-1980's show that the upper Big Hole River and Governor Creek (a tributary to the Big Hole River near Jackson, MT) once supported between 1 and 8 grayling per mile. Because of degraded habitat and stream flow conditions, Arctic grayling have not been documented in these locations since the late 1980's. Conservation activities in recent years have been directed at improving habitat conditions in tributaries and on the mainstem Big Hole River in the upper portion of the basin. Since 2006, approximately 11 miles of riparian fence was installed, 4.5 miles of stream channel restoration was completed, 5 bridges replaced non-functioning culverts, 9 fish ladders were installed to improve fish passage, 11 irrigation improvement projects and 7 stock water systems were installed to increase instream flow, and riparian areas were treated for noxious weeds.

Monitoring efforts from 2006- 2012 in the Upper Big Hole River and Governor Creek resulted in the capture of zero grayling, indicating that natural recolonization into these reaches had not occurred, or did so at low levels. As a result, FWP initiated a project to assist grayling recolonization into the Upper Big Hole River from 2013-2018 to meet the CCAA goal of expanding grayling distribution within 5 years of initiating the CCAA program.



2013 Arctic grayling egg collection efforts at the Axolotl Brood Pond near Ennis, Montana.

The 2013 grayling recolonization efforts in the Upper Big Hole included incubating gametes from the Big Hole fluvial brood stock using remote site incubators (RSI). Grayling gametes were collected on May 21 at the Axolotl Lake grayling brood pond. Fertilized eggs were transported to the Yellowstone River Trout Hatchery and incubated until eye-up stage. On May 31, 105,000 eggs were transported to 10 RSIs in Governor Creek, and five RSIs at two Big Hole River sites. Grayling fry were observed at each RSI site after 10 -15 days. These efforts will continue in 2014.

Big Hole Habitat Projects

The Candidate Conservation Agreements with Assurances program (CCAA) initiated over 25 habitat restoration projects that address limiting factors for grayling in the Big Hole River in 2013. Habitat restoration included projects that stabilized streambanks and improved riparian vegetation and channel function, riparian fencing, grazing management, developing off- stream stock water systems, installing fish ladders, developing numerous fish friendly diversions and removing

non-functioning culverts to restore habitat connectivity and fish passage, the replacement of non-functioning irrigation control structures and measuring devices that benefit conservation efforts to improve instream flows.

Grayling Genetics

In 2011, the Center for Biological Diversity reached an agreement with the USFWS to move forward on listing decisions on 757 species, including the Arctic grayling. Under the settlement, a final listing decision is due in September 2015. In September 2013, the USFWS initiated their Status Review of Montana grayling – gathering all grayling related data to assist their proposed listing decision.



Irrigation water measuring device being installed to improve instream flows, and allow the landowner to follow their CCAA flow agreement on Englebard Creek, in the Big Hole Watershed.

As part of the Status Review, FWP and the U.S. Fish and Wildlife Service (USFWS) have analyzed the most recent grayling genetics to determine the Big Hole River and Red Rock grayling effective population size, and determine trends in overall genetic diversity in these populations. Determining population trends in rare species can be difficult. Annual electrofishing surveys for grayling yield varied results due to the large spatial scale of sampling locations and low capture efficiency. Genetic analysis is an effective, alternative method to determine the health of fish populations. Using fish scales or fin clips, geneticists can look at the structure of a population, and determine its long-term viability.

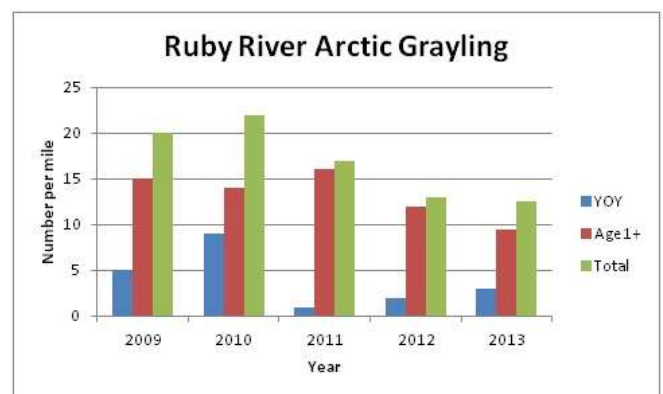
The results of the 2013 genetic analysis are showing that the Red Rock and Big Hole River grayling populations are genetically healthy with a high number of successfully breeding grayling. These genetic analysis results support the electrofishing survey data collected in these areas for the past few years, where higher numbers of spawning grayling have been captured during surveys.

Ruby River



Hatchery Reared Grayling Stocked in Upper Ruby River

Reintroduction efforts in the upper Ruby river were initiated in 1997 when hatchery reared grayling were stocked in to the upper Ruby River from 1997-2003. From 2003-2008, Remote Site Incubators were used to imprint grayling into the headwater of the Ruby River with the goal of establishing multiple age classes that would successfully spawn and establish a self-sustaining population.



2009-2013 Catch per unit effort from FWP electrofishing surveys for Arctic grayling in the Ruby River documenting 5 years of natural reproduction.

Supplementation efforts ceased in 2009, and population surveys from 2009 – 2013 have documented natural reproduction and captured multiple age classes (ages 1–5) of grayling. Natural reproduction and recruitment of juveniles into mature reproducing individuals for the fifth straight year is very positive progress towards the goal of establishing another fluvial grayling population in Montana.

Mountain Whitefish in the Big Hole – Jim Olsen



Mountain Whitefish

Mountain whitefish are members of the trout family. Although their long pointy noses and large scales make it difficult to imagine, they are closely related to the fine scaled and brightly colored trout. Despite their homely appearance, the mountain whitefish is the one native salmonid species that has thrived in our larger rivers across southwest Montana when other native salmonids, cutthroat trout in particular, have all but disappeared. Their long pointed snout is specialized to root among the rocks of the river bottom in search of insects and other invertebrate food. Whitefish spawn in the fall and are known to migrate great distances to reach spawning areas. Juvenile fish often drift downstream to warmer areas of the river in order to grow faster and later disperse throughout the river system as adults. Whitefish are highly sought after by some anglers because of their eating quality, particularly when smoked. Others consider whitefish a nuisance species when targeting trout and others even consider it a trash fish (legally they are a game fish and cannot be wasted). The harvest limits for the fish are generally high and those that target

the fish for eating are generally fishing in the colder winter months.

There have been some recent concerns in cold water rivers across Montana that mountain whitefish are not fairing as well as they once have. This concern has prompted several biologists to take a closer look at whitefish populations in our local rivers, but unfortunately there is very little data determine if the perceived decline is real or not. The reason for the lack of whitefish data in the Big Hole River and other coldwater rivers is that typically when trout populations are monitored whitefish are not intentionally captured and counted. There are 2 main reasons for this: first, the mere number of additional fish that would be captured and handled would increase dramatically and therefore workdays would be substantially longer and electrofishing sections would be difficult to complete in the short days of early spring. Second, whitefish tend to be more sensitive to electrofishing and handling (measuring and weighing) than trout and past experience has suggested that intentional capture and handling can lead to high mortality rates. Therefore, while we have decades of excellent data on trout population trends across multiple sections in the Big Hole and other rivers we have virtually no information on mountain whitefish.

Beginning in 2009 crews on the Big Hole began monitoring mountain whitefish populations in selected sections of the river. Whitefish were collected in early March and mark-recapture population estimates were performed simultaneously with trout estimates. Care was taken to not keep captured fish in tanks of the boat for long periods of time and estimates were done when water temperatures did not exceed 45 degrees. This seemed to reduce the stress on whitefish and we experienced less than 5% immediate mortality. Whitefish estimates have been performed in 3 of the 4 trout population monitoring sections of the Big Hole. These estimates suggest that whitefish are doing well. In most of the sections surveyed the whitefish populations were larger than the combined brown and rainbow trout population estimates. For example in the Pennington Section located near Twin Bridges in 2011 there were 2,108 whitefish and 599 browns and rainbows per mile. In the Melrose Section in 2012 there were 2,737

whitefish and 2,191 trout per mile. In our Jerry Creek section located near the town of Wise River there were 1,180 whitefish per mile and 2,301 trout per mile. Therefore, while there appears to be abundant whitefish in the river, it is impossible to determine from these numbers if there are more or less than there have been in the past. This recent data will serve as a baseline to begin monitoring whitefish populations in the future to determine if there are population trends that warrant concern.



Mountain Whitefish

Hebgen Reservoir rainbow trout: Is hatchery supplementation still required to sustain the population and the fishery? - Travis Lohrenz and Pat Clancey

Approximately 40 years ago the management of Montana trout populations changed from routinely stocking streams and rivers to emphasizing habitat protection and management for wild self-sustaining populations. However, trout fisheries in many Montana lakes and reservoirs are still commonly maintained by stocking hatchery reared fish. Hebgen Reservoir is a popular rainbow and brown trout fishery located near West Yellowstone, Montana. Currently, this fishery is annually supplemented with 100,000 rainbow trout from Blue Water State Hatchery, while spawning runs of wild rainbow trout occur in several tributaries of the reservoir. For the last decade, Montana Fish, Wildlife & Parks has used various mark-recapture techniques in an effort to discern the contribution of hatchery reared and wild rainbow trout to the Hebgen Reservoir rainbow trout population. Results have been inconclusive and offered no clear picture of the contribution of

wild vs. hatchery return to the population or the creel.

In 2013, an otolith microchemistry study was initiated to assess the proportion of stocked rainbow trout and wild rainbow trout in the Hebgen Reservoir fishery. An otolith is a middle ear bone often used in age studies of salmonid species. Otolith microchemistry analysis has proven to be a reliable technique for discerning natal origin and migration patterns of trout. The elemental chemical ratios in the waters where a fish resides are captured in the otolith as it grows, thus allowing the determination of where that fish lived over the course of its life. In 2013, water samples were collected from Hebgen Reservoir and its tributaries, and from Blue Water State Hatchery to determine if detectable differences in ratios of elemental Calcium, Barium, Strontium, Magnesium, and Zinc exist between these waters.

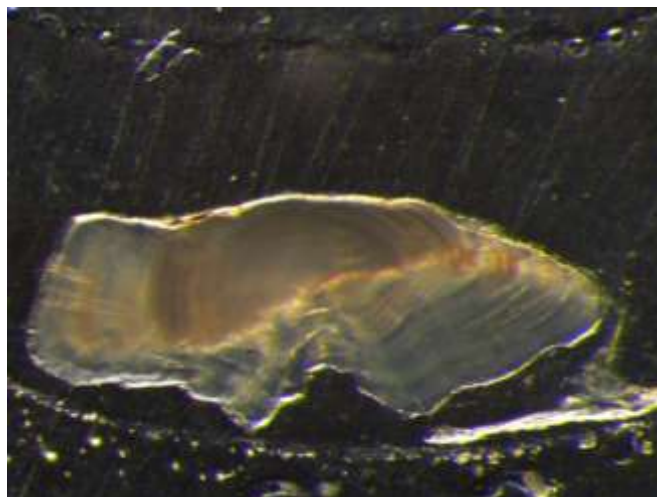


Photo of a sectioned otolith similar to those that will be used in the Hebgen Reservoir study. Photo by Carter Fredenberg.

Results from the water analysis completed in December, 2013, indicate that the elemental ratios in the water sources are sufficiently different to reliably assign a fish to its natal water. In the Hebgen study, this will allow determination of wild or hatchery origin through examination of elemental chemical ratios present in the focus of the otoliths of rainbow trout. If the study holds to schedule, collection of otoliths from a wide size and age range of rainbow trout will be completed in 2014, followed by elemental analysis of the otoliths. This effort will provide substantial information for determining the composition of wild vs. hatchery origin of the Hebgen rainbow trout

population, and aid managers in determining the direction of future management of the Hebgen Reservoir rainbow trout fishery.

Westslope Cutthroat – Ron Spoon

The Region 3 fisheries program strives to balance management of high quality sport fishing rivers and lakes with efforts to protect native fish species for future generations. Generally, native fish restoration for species like westslope cutthroat trout, yellowstone cutthroat trout, and arctic grayling occur where sport fishing pressure is less significant.

Ensuring the long term survival of Montana's State Fish, westslope cutthroat trout (WCT), is a passion for biologists in Region 3 and significant progress has been made in recent years. From 2001 to 2013, our staff worked on 21 streams to restore cutthroat trout in the region. Typically, these projects involved removing non-native fish, constructing a fish passage barrier at the bottom of a project area, and moving a genetically pure population of WCT from a nearby source to the new, vacant habitat.



Westslope Cutthroat Trout

These 21 restoration projects have begun to reverse the trend of declining abundance of WCT in Region 3. Collectively, these projects have added 167 miles of stream occupied by our State fish. In 2001, WCT were only present in 4.2% of their historic range, which was estimated to be approximately 11,000 miles of stream. Large projects like Cherry Creek Restoration (Madison Basin) added 60 miles of WCT habitat, while

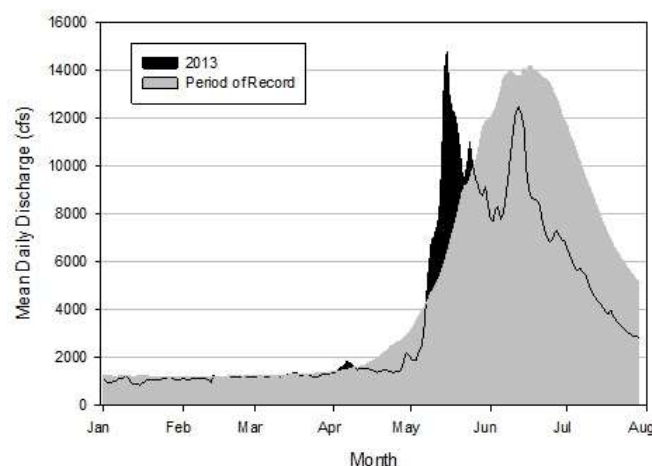
smaller projects like Staubach Creek (Upper Missouri Basin) added 2 miles of habitat. When added together, 21 projects increased the percentage of historic distribution from 4.2% to 5.7%.

While managing sport fish for anglers remains a focus in Region 3, the tools for recovering westslope cutthroat trout have been firmly developed and the commitment for restoring the species is stronger than ever. Fishing for large brown trout in a large river and a colorful native in a small stream appear to be a reality for the future.



Colorful Native Brown Trout From Small Stream

Upper Yellowstone River – Scott Opitz



Yellowstone River daily mean discharge at the Carter's Bridge gage for 2013 and the long-term average.

In 2013, the upper Yellowstone River experienced low flows through most of the water year with the

exception of a spike in May. As a result, population sampling was not completed on the river in 2013. The upside was that water temperatures remained good for fish in spite of the low flow conditions.

FWP is continuing to monitor the Floy™ tagging effort with Yellowstone cutthroat trout that began in 2005. FWP uses this information to understand the movement of fish throughout the river. In addition, FWP can determine growth rates when a tagged fish is recaptured. The tags are yellow and located behind the dorsal fin. If you happen to catch one of these fish please note the tag number (YSR followed by four digits), date, length and weight, and the location the fish was caught, and report this information to your local FWP office or online at

<http://fwp.mt.gov/fishing/guide/taggedFishForm.html>

FWP completed the second year of a PIT tagging study on the Yellowstone River in order to assess the success of a passage barrier removal on Rock Creek in 2011. An old abandoned railroad crossing, that was limiting passage of spawning Yellowstone cutthroat trout from the Yellowstone River to spawning areas in Rock Creek, was removed and the stream in this reach was reconstructed to allow passage. Antennas that can detect the PIT tags, which were placed in fish, were placed on a bridge upstream of the restoration project.

A number of Yellowstone cutthroat and rainbow trout were captured and tagged in the Yellowstone River downstream of Rock Creek. In 2012, FWP was able to detect the passage of 5 Yellowstone cutthroat trout, 1 rainbow trout, and 1 hybrid (Yellowstone cutthroat x rainbow) through the restoration project area indicating that the project was a success in restoring passage. In 2013, passage of at least 17 Yellowstone cutthroat trout and 6 rainbow trout was detected. FWP is currently analyzing the data from 2012 and 2013 to determine spawning movement timing and how timing relates to temperature and flows.

The Shields River experienced another low water year in 2013, similar to 2012. FWP's spring sampling indicates that the abundance of rainbow and Yellowstone cutthroat continue to be on par with previous years. Brown trout abundances

have increased compared to 2012 and are on par with previous years. This is likely the result of the moderate runoff in 2012 and mild winters in 2011 and 2012. Future monitoring will determine the full effect of the 2012 and 2013 low water years on the fish populations in the Shields River.



View of Rock Creek fish passage restoration project. The railroad crossing was removed and step pools were created to allow for fish passage through this reach.

FWP continued its Floy™ tagging effort on Yellowstone cutthroat trout in the Shields River Basin. If you catch one of these fish please report the information requested above to your local FWP office or online at

<http://fwp.mt.gov/fishing/guide/taggedFishForm.html>



Gary Senger and Matt McCormack sampling Yellowstone cutthroat trout in Passage Creek.

As part of FWP's work with Yellowstone cutthroat trout, a large amount of survey work on tributaries to the Yellowstone and Shields River was completed in 2013. Some of this work was done

in partnership with the Gallatin National Forest and the Wildlife Conservation Society. The intent of these surveys was to determine the current distribution of Yellowstone cutthroat trout and other species such as rainbow, brown, and brook trout. FWP collected genetic samples from Yellowstone cutthroat trout that will allow for determination if hybridization (with rainbow trout) exists in the waters that were sampled. These surveys allow us to determine how Yellowstone cutthroat trout are fairing across their range.

REGION 4 NORTH CENTRAL MONTANA

Canyon Ferry Reservoir – Adam Strainer

Canyon Ferry continues to be quality year-round rainbow trout fishery, a popular spring to fall walleye fishery and a trophy perch fishery. Here's what going on with the fishery:

Rainbow trout catch rates were slightly below average during the winter at 0.28 fish per hour (long term winter average is 0.34 fish per hour) and met the long term average during the summer at 0.28 fish per hour. Roughly 40% of the anglers interviewed on Canyon Ferry (winter and summer combined) specifically targeted rainbow trout. Rainbow anglers caught fish which averaged 19.0-inches (2.6-pounds) throughout the winter and 18.2-inches (2.3-pounds) during the summer. The annual fall population trend survey revealed a slight decrease from 3.4 RB/net in 2012 to 2.7 RB/net in 2013, but continued fish stocking evaluations by FWP gives anglers a quality year-round rainbow trout fishery. Canyon Ferry received its full stocking request of approximately 300,000 fish (6-8 inchers) in 2013. The rainbow trout limit remains at 5 daily and 10 in possession.

Walleye anglers on Canyon Ferry continued to make it one of the most popular fisheries in the state. Approximately 60% of anglers interviewed during the 2012 summer creel specifically targeted walleye. Angler catch rates decreased from 0.35 fish per hour in 2012 to 0.21 in 2013 (0.25 fish per hour is widely regarded as good walleye fishing).



32" 14.3# Walleye released by fisheries tech, Chris Hurley

Walleye abundance, based on annual fall gillnet trends, decreased from 7.2 per net in 2012 to 6.7 per net in 2013, however, the management plan goal of 5 per net (three-year average) was met for the second consecutive year. A good yellow perch crop from 2011 continues to drive Canyon Ferry's forage base and average walleye size has increased over the past three years as a result. It was the third consecutive year that FWP saw an increase in the number of 15-inch or larger fish from 24% of the catch in 2011, to 36% in 2012 and 39% in 2013. Trophy fish (>30") continue to draw walleye anglers to Canyon Ferry, but healthy, preferred sized fish, are what continued to filled live wells. Walleye regulations in Canyon Ferry have changed to 12 daily, only 1 over 25 inches. Possession limit is twice the daily limit.

Additionally, walleye are tagged annually to learn more about angler harvest, fish movements and other biological data. During the annual spring walleye spawning survey on the south end of Canyon Ferry, FWP personnel successfully tagged 338 walleye in 2013 with dorsal tags (FLOY tags), pushing the total number of fish tagged in Canyon Ferry since 2004 to nearly 5,000. In the past year, 37 of 83 reported tags (45%) were from fish both tagged and reported in 2013. The remaining 55% of reported tags were from fish initially tagged between 2009 and 2012. Greater than 80% of all fish reported in 2013 were caught on the south end of the reservoir. Thanks again to all anglers who have reported tags in the past and encourage others to do the same as the results are invaluable. If you catch a fish with a tag this year, contact the Helena Area Resource

Office (HARO) with your tag information (i.e. fish length, weight, location, etc) at (406) 495-3260 or <http://fwp.mt.gov/fishing/guide/taggedFish.html> and your information will be forwarded to FWP staff.

Another interesting finding during the annual spring spawning survey was the number of northern pike sampled. Ten sexually mature northern pike, nine females and one male, averaging 38.4 inches & 10.4 pounds, were surveyed and removed from the fishery in 2013. It's estimated that nearly 1 million northern pike eggs were removed from reservoir during the survey.



Eric Roberts, Area Biologist, with 25 Pound Northern Pike

Yellow perch continue to be a primary angler target species in Canyon Ferry throughout the winter months. Despite historically low catch rates over recent years, anglers still caught perch averaging 10.9-inches and 0.98-pounds in 2013. The annual population trend survey confirmed, for the third consecutive year, an increase in perch abundance from 1.7 per net in 2012 to 3.3 per net in 2013. Even though abundance is trending upward, it's still well below management goals of 10 perch per net. Despite historically low abundance levels and angler catch rates, nearly 30% of anglers interviewed during the winter of 2013 specifically targeted perch. Yellow perch regulations in Canyon Ferry have changed to: 10 daily and in possession.

To help enhance perch spawning habitat, FWP, in cooperation with volunteers from the City of Helena, Broadwater County Sanitation and area

civic groups continued to construct and place perch habitat structures, made from up-cycled live Christmas trees, throughout the south end of reservoir. The Pines for Perch Project has taken place each spring, in one capacity or another, since the 1990's and the project will continue into the future. The spawning structure/habitat project would not be possible without area volunteers, so, if you are interested in volunteering to help with this project, or simply want to join us for a day on the water in 2014, please contact the Helena area fisheries crew and spend a day out on Canyon Ferry Reservoir.

Hauser, Holter & Helena Valley **Regulating Reservoirs – Eric Roberts**

Hauser Reservoir

Fishing on Hauser wasn't too bad in 2013. Rainbow fishing was pretty consistent all summer long for both shore and boat anglers. Most of the shore action for rainbows was at the Causeway and Black Sandy State Park. Riverside, below Canyon Ferry Dam, also had some pretty good rainbow fishing in the spring and fall. Boat anglers did well trolling cranks early in the season and switched to cowbells tipped with worms as water temperatures warmed and fish went deeper. We're still seeing really good rainbow growth, with the average fish caught last summer measuring about 18 inches.

Walleye fishing was a little hit or miss in 2013, but there were still a few stretches with really good fishing. The spring walleye bite on Lake Helena (which is considered part of Hauser Lake) was really good from about late April through mid May. A variety of crankbaits seem to work best, but bottom bouncers with a crawler harness also caught some really nice fish. Fishing the spring Lake Helena bite can be a challenge because only small or medium sized craft are able to launch at the Lake Helena FAS, and the spring wind can quickly blow you right off the lake. Later in the summer and fall the walleye seem to move more down in the Causeway and around the York Bridge area.

Historically, perch fishing on Hauser hasn't been as good compared to other Helena area reservoirs; however, there are still occasional

opportunities to catch a large number of perch. Population surveys in 2013 revealed that perch numbers were still below acceptable management levels. As a result, perch bag limits were reduced to 10 fish daily and in possession, and an additional restriction of 1 fish daily, 14 inch minimum length, from April 1 through June 30. This change is intended to reduce the impacts of angler harvest to the perch population, and further preserve spawning aged perch. There is typically a higher rate of harvest for perch on Lake Helena during the spring walleye bite, so the additional restriction from April 1 through June 30 is intended to protect perch during that period of high harvest. Predation by walleye is a primary limiting factor to perch production, so a high walleye bag limit (20 fish daily, only 1 over 25 inches) remains in place to reduce walleye abundance, which also reduces predation rates.

Holter Reservoir

Fish population surveys in Holter showed good numbers of fish across the board in 2013. Rainbow numbers remained at high levels, walleye numbers continued to increase, and yellow perch numbers increased through the roof. In fact, all the primary game species in Holter are above management goals, and in the case of walleye, numbers are too high.

The Holter rainbow fishery is sustained by stocking about 225,000 catchable (7-8 inch) fish in the summer after spring runoff and another 225,000 catchables in the fall. This stocking strategy seems to be working well with good survival of fish to sampling gears and to the angler creel. Angler catch rates for rainbows were a little lower in 2013 than in previous years, but fishing was still pretty good. An average sized fish in 2013 was just over 18 inches and just shy of 3 pounds. Fishing in the spring can be excellent, especially around the Holter BLM and Log Gulch boat ramps.

Walleye numbers increased by about 38% during population surveys, but angler catch rates were low throughout the summer of 2013. It is not uncommon to see an increase in walleye numbers and a decline in angler catch rates, especially when there is abundant forage. Condition factors for walleye were high, which means there were a

lot of plump (even fat) walleye. Unfortunately, when walleye are fat and happy they aren't actively feeding, which makes catching them more of a challenge.



Fisheries Technician, Troy Humphrey, releasing large walleye

The big story on Holter in 2013 was the yellow perch. Perch numbers increased substantially to record-high numbers in 2013. Perch are not only important as a sport fish, but they also provide the primary forage base in the reservoir. When numbers jump like they did in 2013, it changes the dynamics of the entire fishery. The increase in perch is primarily responsible for the improved condition factors in walleyes (and also the lower angler catch rates for walleyes). We also saw vastly improved angler catch rates for perch throughout the summer. The effects of this large cohort of perch will likely be visible over the next few years in improved perch catch rates, better walleye condition factors and improved growth, and recruitment of more perch spawning stock into the population.

Helena Valley Regulating Reservoir

Kokanee salmon fishing was good at the Regulating Reservoir in 2013. The salmon bite was pretty consistent most of the summer, with trolling cowbells with wedding ring combos seeming to get the most action. The winter bite through the ice was a little sporadic, but there were still a lot of good days of fishing. Stocking densities have been a little higher the past few years, so average size is also a little lower. In 2013 the average sized kokanee was just over 12 inches, with a good number of fish over 17 inches as well.

There is also a snagging season at the Regulating Reservoir from September 1 through October 31.

Snagging season usually starts out fast with most people targeting the irrigation canal that runs out of the reservoir. Once most fish are caught out of the canal, things slow down until fish start actively moving to spawn. Once the fish are in full spawn mode, the snagging on the reservoir side of the dam can be really good, but meat quality can be highly variable. It can be a difficult balancing act to hit the snagging season when fish are moving, but before fish quality really diminishes.

Missouri River - Grant Grisak

The Missouri River could be characterized by extremes in 2013. For the third year in a row, rainbow trout numbers in the Craig section remain high and rainbows 10 inches long and greater were estimated at 5,194 per mile. The long term average is 3,237. Over the past three years the rainbow trout in this section have been at all time high levels (2011 = 6034 per mile, 2012 = 7312 per mile). The population this year demonstrated increased size and slightly lower abundance over the past two years, which is typical of fish in the current population reaching their maximum size. This year 87% of the rainbow trout in the Craig section were 15 inches long or greater and 35% of the population was 18 inches long or greater. Biologists predict the population will return to normal levels next year unless an unusually high water event occurs in the spawning tributaries in the spring of 2014. Brown trout numbers were estimated at 745 per mile which is also higher than the long term average of 576.

Despite high trout numbers this year, water flow was very low in 2013 and was in the 7th percentile for the 65 year period of record. The disparity between high rainbow trout number and low flows was not completely dismal. Normal spring flows in the Missouri River include high and dirty water which does not allow biologists to count the rainbow spawning nests (redds) in the Missouri River. With low flows in 2013, biologists were able to count redds using a helicopter for the first time since 2010 when 1,644 redds were counted. In 2013 we counted 3,113 redds between Holter Dam and Pelican Point FAS (26 miles).

In 2011 a high number of hatchery-raised rainbow trout from Holter Lake were flushed into the Missouri River below Holter Dam as a result of

high summer flows. Since that time we have been able to estimate these fish in the population. Our data show that the number of hatchery fish in this population is diminishing each year. In 2013 we estimated 394 hatchery rainbow trout per mile which is down from the high of 1,100 per mile in 2011.

Smith River – Grant Grisak



An age-one mountain whitefish from the Smith River near Eagle Creek. Small rainbow trout, brown trout and mountain whitefish were abundant in 2013.

The Smith River was plagued with low water flows and high water temperature this year. For the fourth time in eight years the Department instituted time of day angling restrictions due to high water temperatures. The closure spanned from July 22 through September 15 and included closures on the Sun and Dearborn rivers also. The number of rainbow trout greater than 8 inches long in the Smith River near Eagle Creek was 222 per mile and brown trout were estimated at 139 per mile. Numbers for both species are below the long term average of 498 and 306, respectively. This year biologists observed higher than normal numbers of small (less than 8 inches long) rainbow trout, brown trout and mountain whitefish which is promising for the up-and-coming year classes for these species.

Belt Creek - Grant Grisak

Regional staff continues to monitor trout populations at two sections in Belt Creek as part of the mine waste clean-up in the Dry fork and Carpenter Creek drainages. In the Monarch section, rainbow trout (249 per mile) and brown trout (92 per mile) were similar to previous years,

but mountain whitefish (240 per mile) were quite a bit higher than previous years. In the Sluice Boxes section rainbow trout (177 per mile) and brown trout (62 per mile) were less than previous years, but mountain whitefish numbers (575 per mile) were higher in this section than in previous years.

In early 2013 the USGS installed a water flow gage near Monarch. Previously, water flow in this stream was estimated based on measured flow in the Smith River, but was reliable with only flows higher than 200 cfs. Heavy rain storms in the central Montana in June caused severe flooding in several streams including Belt Creek. On June 5, Belt Creek reached a maximum flow of 3,100 cfs at the Monarch gage. Water flow near the mouth was estimated at 4,000 cfs. To put this into perspective, the peak flow in Belt Creek was greater than the base flow of the Missouri River for much of the year. Changes in the stream environment, from high flows, is the likely cause of changing fish populations this year.

Largent Bend Ponds – Grant Grisak



Black crappie sampled from Largent Bend pond #3. 8.5 inch size class (center) was the most abundant size sampled in 2013.

Surveys this year show an abundance of crappie in pond #3 ranging between 8.5 and 13.5 inches long. Crappie averaged 11 per net. In pond #2 largemouth bass were the mainstay for anglers of all ages. Largent Bend pond #2 has become a popular fishery for young anglers and family type outings. MFWP received numerous reports of summer evening catches over 10 fish per hour using spinners, plugs and popper flies. Largemouth bass averaged 12.5 inches long in 2013 with the largest being 14.5 inches long. One

management objective of stocking bass in this pond was to reduce the number of black bullheads. Surveys in 2013 showed black bullheads have decreased dramatically. In 2013 the finishing touches were made to plans to develop parking, boat launch and picnic tables at the site.



A young angler shows a largemouth bass caught at Largent Bend pond #2 in 2013

Pelican Point Pond – Grant Grisak

Northern pike first appeared in Pelican Point pond #1 in 2012 during routine sampling for bass, perch and crappie when two pike were caught in trap nets. In 2013, 62 pike measuring 11.9-15.6 inches long were sampled in traps. Based on the size of these pike, we suspect they originated from an illegal introduction that occurred in 2010 or 2011. In 2013 the Fish, Wildlife & Parks Commission approved a no-harvest limit regulation for northern pike in Pelican Point Pond #3 to encourage anglers to remove these fish in order to maintain

the largemouth bass, yellow perch and crappie fishery. The regulation change will begin in March 2014. In 2012-13 biologists completed the process to begin stocking largemouth bass in this pond to help maintain the bass fishery. Previously the bass fishery was sustained by natural reproduction, but competition for forage by northern pike and the likely predation of bass by pike necessitated the stocking of bass to maintain angling quality. In October 2013 biologists removed 28 pike during trapping. Not a single yellow perch was captured in nets, suggesting pike have had a negative impact on this important sport fish.



Pelican Point Pond #1 produces bass up to 6 pounds

Lewistown Area – Clint Smith & Derrick Miller

The Lewistown area had another high-water year in 2013 leading to full reservoirs and good fishing. Water levels in 2011 were some of the highest on record and many areas saw as much or more water in 2013. The fisheries response to these above average water years following the decade of drought continues to impress. The high-water has also had a few negative impacts particularly on small reservoirs in the

Missouri Breaks area. These impoundments are commonly formed by earthen dams which have experienced significant amounts of erosion on the dam-face and spillway areas, thus compromising the dam structure. FWP is working with the Bureau of Land Management (BLM) on prioritizing and hopefully repairing these impoundments as they provide very popular angling opportunities.

East Fork Reservoir - Clint Smith & Derrick Miller

East Fork Reservoir experienced a drawdown in the summer of 2012 to repair the release gate. These repairs went well and the reservoir was at ~75% full in January 2013 and close to spilling again after runoff and the spring rains. FWP monitoring in 2013 suggests that the fishery of East Fork is recovering well from the drawdown. Yellow perch catch rates (12 fish per net) were slightly lower than the long-term average (19 fish per net), however, spring trap netting caught more than 4,000 perch which suggests that there are ample perch numbers for the population to reach a full recovery to pre-drawdown numbers soon. Sampled yellow perch averaged a little more than 8 inches and 0.3 pounds. Northern pike numbers were near the long-term average with a mean length of 17" and the largest fish measuring 34".

Martinsdale and Bair Reservoirs - Clint Smith & Derrick Miller

FWP received numerous positive reports from anglers on Martinsdale and Bair Reservoirs, two popular rainbow trout fisheries in Meagher County. Water levels were near full pool in June 2013 and slightly below the long-term average going into winter 2013. Annual fall sampling this year found rainbow trout averaging 14" (max of 18") in Martinsdale, although catch rates were low.



Bair Reservoir westslope cutthroat trout

Bair Reservoir catch rates and average lengths continue to improve. In 2009, fall sampling caught 15 rainbow trout per net averaging 9.8 inches. This year our sampling caught 39 rainbow trout per net averaging 11 inches, with fish up to 18 inches found. Stocked westslope cutthroat trout

continue to do well in Bair, averaging 12" and in good condition.

The sucker populations in both Martinsdale and Bair Reservoirs continue to grow and compete with the desired game fish. In the past, mechanical removal of suckers have been performed and led to some short-term improvements in the trout fisheries. Other, less intensive methods, such as altering the stocking program have been suggested. FWP personnel will continue to monitor these important fisheries and seek public comment on future management decisions.

Ackley Lake - Clint Smith & Derrick Miller

Ackley Lake is a very popular fishery and recreational area near Hobson. The 2013 rainbow trout catch rate (22 fish/net) declined for the first time since 2009 and fell below the 10-year average (31 fish/net). The rainbows averaged 13.6", while brown trout averaged more than 21". Brown trout are few and far between in Ackley Lake as they are not stocked, but wash in from the Judith River via the reservoir's inlet canal. They provide anglers with the occasional trophy fish such as a 28", 9.6 pound fish sampled this fall.



A trophy brown trout from Ackley Lake near Hobson

FWP receives numerous positive angler reports from Ackley Lake; however the fishery experiences similar trout-sucker dynamics as mentioned above in the summary of Martinsdale and Bair Reservoirs and similar management actions will be considered.

Petrolia Reservoir - Clint Smith & Derrick Miller

The fishery at Petrolia continued its upward trend in 2013. Annual fall gill netting found record high numbers of yellow perch, nearly 6 times the long-term average. This is likely due to the high water levels in 2011 and 2013 providing flooded vegetation and great spawning habitat. The average yellow perch size of 7.3" is down from 2012, but there are some very strong age classes coming through that should provide fantastic perch fishing. Spring trap netting and fall gill netting indicated decent walleye numbers in Petrolia. FWP sampled fish up to 25 inches and over 6 pounds. The average walleye was 18" and weighed 2.5 pounds.



Pair of Petrolia Perch

A less utilized feature of the Petrolia fishery is the northern pike angling opportunity. The pike numbers are not high in Petrolia; however there are some trophy fish to be caught. The average pike in Petrolia this year was 32", with fish up to 42" and over 20 pounds caught during the annual fall sampling.

Carter Ponds - Clint Smith & Derrick Miller

The fishing in Upper and Lower Carter Ponds continues to decline due to the illegal introduction of bluegill and yellow perch. Prior to the introductions, these ponds provided great rainbow trout fishing. Currently, the ponds are full of

stunted bluegill, which are frustrating anglers. The continued decline of the fishery in the Carter Ponds will require management action in the future, likely the attempted removal of the illegally introduced fish at much expense to FWP and the public.

Small Reservoirs - Clint Smith & Derrick Miller

Numerous reservoirs in the Missouri Breaks area are managed as largemouth bass ponds. FWP sampled Bubs, Dry Blood, South Fork Blood, Payola, and Whisker Reservoirs to monitor largemouth bass angling opportunities. Largemouth bass in the Missouri Breaks area averaged 11", weighing 0.8 pounds. These reservoirs provide excellent angling opportunities and the chance to catch largemouth upwards of 2 pounds. Additional area reservoirs provide a diversity of angling opportunities, including crappie in Whisker Reservoir and sauger in Jakes Reservoir.



Tagged sauger from Jakes Reservoir in the Missouri Breaks

Small Creeks - Clint Smith & Derrick Miller

FWP personnel sampled numerous small creeks in the Lewistown area during the 2013 summer field season. Our sampling found that for those who are willing to walk and/or ask permission, there are some great angling opportunities including pan-sized brook trout, native westslope cutthroat trout, 20 inch browns, and everything in between.

One creek of note was Ross Fork Creek, which is a tributary of the Judith River that flows from the Snowy Mountains east of Judith Gap north through cropland and livestock grazing to the confluence about 13 miles west of Lewistown.

FWP sampled areas throughout the drainage, finding numerous species such as fathead minnow, longnose dace, lake chub, northern redbelly dace (a state species of special concern), stonecat, carp, and suckers. Rainbow, brook, and brown trout were also present throughout the drainage, with high numbers of fish near the confluence with the Judith River. This peaked our interest and after comparing temperatures, 70° F in Ross Fork Creek and 78° F in Judith River, we discovered that the trout were likely using Ross Fork as an area to get away from the high temperatures in the Judith River. This finding puts increased importance on the aquatic habitat of Ross Fork Creek as the Judith River is chronically dewatered during the irrigation season.

Big Spring Creek - Clint Smith & Derrick Miller

Big Spring Creek is the most important and popular trout fishery in the Lewistown area. Anglers come from all over, both in- and out-of-state, to experience the steady temperatures and crystal clear waters the creek offers. This year FWP performed population estimates on the Burleigh and Carroll Trail sections of the creek. In the uppermost section, Burleigh, the number of rainbow trout larger than 10" was estimated to be 335 fish/mile, while brown trout larger than 10" were estimated to be 488 fish/mile. Total trout >10" in this section are well above the long-term average of 567 fish/mile. Rainbow trout averaged 12.5" and brown trout averaged 13".

The fishery at the Carroll Trail section was once dominated by rainbow trout, however, in recent years there has been a drastic shift towards brown trout. This is characteristic of what we are finding throughout the creek and the shift is most pronounced at Carroll Trail. Rainbow trout estimates of 434 fish/mile at Carroll Trail are the lowest since 1978 and continue the downward trend beginning in 2005. Brown trout numbers, on the other hand, are very high, with an estimate of 872 fish/mile, which is the second highest estimate on record. The largest brown trout sampled measured 22" and the largest rainbow trout was just short of 18". The good news is that the 2013 estimate of total number of trout per mile (1,307) is very close to the long-term average (1,354); the bad news is that the rainbow trout

numbers are historically low and we are not seeing recruitment of juvenile rainbows into the population.



A Nice Big Spring Creek Brown Trout

There are two primary reasons for the decline in rainbow trout in Big Spring Creek. The first is whirling disease. Rainbow trout are very susceptible to whirling disease, whereas brown trout are highly immune, having evolved with the disease in the rivers and streams of Europe. Whirling disease was first found in the creek in 2003/04, shortly after which FWP began to observe initial declines in the rainbow trout population. The other reason for the decline in rainbow trout stems from the high flows of 2011 and 2013. Rainbow trout are spring spawners, typically peaking in mid-March to early-April. The high flows can scour rainbow trout redds (nests) and wash any emerged fry away. It has likely been this 'perfect storm' of factors that has caused the rainbow trout numbers to plummet.

The short-term outlook for rainbow trout in Big Spring Creek is not good. 2013 saw the lowest estimates on record for rainbow trout from 6-10", suggesting that there are not many juvenile fish recruiting to the population. However, there is

some light at the end of the tunnel. FWP data has indicated that the severity of whirling disease falls following high flows; this is explained by high flows scouring away fine sediments which are the preferred habitat of one of the life-cycles of whirling disease. Following the flows of 2011 and 2013, there might be a window of low whirling disease severity in which rainbow trout might successfully spawn and recruit to the adult population. We will continue to monitor Big Spring Creek and any trends that develop in the rainbow trout population.

Habitat Restoration - Clint Smith & Derrick Miller

As those familiar with Big Spring Creek know, the creek has experienced numerous channel alterations through the years that have been detrimental to the creek and the aquatic habitat it provides. Sections of Big Spring Creek were straightened as the Lewistown area developed, transforming a once meandering spring creek into a straight chute. These actions led to significant amounts of erosion, down-cutting, and a disconnected floodplain, none of which were beneficial to the trout fishery. In the late 1990's, FWP and numerous cooperators began the Brewery Flats restoration project of re-meandering the creek to improve the aquatic and riparian habitat. This project was completed in 2001 and has been measured as a success in every aspect, with improved floodplain function, increased recreational use, and an increase in the trout population.

A similar project is currently being planned on a straightened portion of the creek below Lewistown known as the Machler section. Planning for this project began shortly after the completion of the Brewery Flats restoration and things are finally falling into place. FWP and its cooperators have initiated the process of permitting and floodplain planning, with the hopes of breaking ground on a re-meandered channel in the fall of 2014 and introducing flow into the new channel in 2016.

Tiber Reservoir – Dave Yerk

Walleye anglers enjoyed excellent fishing on Tiber Reservoir during 2013. Historically, this main-stem Marias River reservoir has consistently

provided good walleye fishing, but in 2013 anglers enjoyed their best year possibly ever.

Biologists generally consider angler catch rates of 0.25 walleye per hour very good fishing. This catch rate may seem low to some, but this average encompasses all anglers, including those fishing from the shore and even those not necessarily even targeting walleye. Catch rates on Tiber averaged 0.5 walleye per hour fishing for the entire summer period, and peaked at nearly one walleye per hour for the month of July. That is excellent fishing by nearly everyone's standards.

The size structure of Tiber's walleye population has steadily improved recently and several trophy-sized walleye were caught this past year. In fact, during the walleye tournament in July six fish were weighed in that exceeded 12 pounds, including one over 15 pounds. Overall, walleye harvested by anglers averaged 15.4 inches in length during the summer period.

The future looks good for Tiber's walleye fishery. FWP's sampling indicates the population has a healthy size structure with an increasing number of larger fish and also plenty of smaller, younger fish that will provide the fishery in the future. These smaller fish are important as Tiber is not stocked with walleye but is sustained completely by natural reproduction.

So what has changed in the reservoir that is resulting in larger walleye? FWP sampling indicated there was a unique combination of both perch and cisco production in recent years that lead to ideal growing conditions for the reservoir's walleye. Record-level perch production in 2009 followed by another good year of production in 2010 provided abundant forage for Tiber's smaller (less than 18 inches in length) walleye. Since perch are relatively slow growing, they are available as forage to these smaller walleye for at least two to three years before becoming too large. Timing of the excellent perch production was coupled with three back-to-back years of significant cisco production from 2009 – 2011. During this time, as some of Tiber's walleye became larger in size, they effectively converted to feeding on the reservoir's abundant cisco population. Once they made the switch to this

larger forage their growth really accelerated and resulted in the trophy-sized walleyes we are now seeing in Tiber.

Since the introduction of cisco into Tiber in 1997 and 1998 there have been many changes in the fishery. The development of trophy northern pike,



Yellow perch production is key to maintaining a healthy walleye population in Tiber Reservoir.

lake trout, and walleye fisheries in the reservoir is one positive change resulting from this introduction that has caught the attention of most anglers. Just within the past year a new trophy fishery has emerged in the reservoir that has caught anglers and FWP by surprise. Several large rainbow trout were caught by anglers during 2013, and FWP netted two while sampling cisco.



Trophy sized rainbow trout have recently appeared in Tiber Reservoir. Indeed, a rainbow trout. Reservoir rainbows (and brown trout too) tend to be more silvery than colored up, except when they're spawning. Plus, these rainbows are feeding on cisco at ~60 ft depths, so they're down in the dark.

These are wild fish that have drifted in from upstream sources including the Two Medicine River and Cut Bank Creek. It is apparent these fish are keying in on Tiber's cisco too, and it will be interesting to see just how large they may grow feasting on this abundant food source.

Lake Frances – Dave Yerk

Walleye numbers in Lake Frances showed a sharp increase in FWP's fall monitoring nets in 2013. This was unexpected since the number of walleye stocked in 2012 was reduced in half to about 50,000 fingerlings. It was hoped this reduction would ease predation pressure on the reservoir's yellow perch population, which has declined to very low levels over the past 10 years.

The number of walleye sampled in fall nets was the highest ever observed in Lake Frances and 75% of these fish were age 3 or younger. Certainly this should lead to good walleye fishing in the future, but this increase in numbers will place additional pressure on the perch population. Perch are the primary forage of Lake Frances' walleye and very important in maintaining a healthy fishery.

Since 1998, FWP has stocked Lake Frances with 100,000 walleye fingerlings every other year. Based on netting surveys these stockings appeared to improve the number of walleye in the reservoir, but it was unknown to what level these fish were contributing to the fishery. In 2012 FWP initiated a study to determine the contribution of these hatchery fish to justify the production and stocking expenses of these bi-annual plants.

Over the years walleye stocked into Lake Frances have been marked with tetracycline by hatchery personnel. This common antibiotic leaves a phosphorescent mark in bony structures, making it a very effective way to mark large numbers of fish. The best place to identify this mark on walleyes is the otolith, which is a bony structure in the middle ear. By cutting a thin cross-section of this structure and viewing under a black light, identifying the presence of a phosphorescent ring can distinguish between a fish that was stocked or one that was naturally produced in the reservoir.



The phosphorescent ring evident on this walleye otolith indicates that this fish was stocked.

Preliminary results from fish sampled in 2012 indicated 15% of the walleye checked were of hatchery origin. Thanks to help from anglers contributing numerous samples in 2013, we have a large sample size to evaluate this winter. This information will be very helpful in evaluating our walleye stocking program on Lake Frances. Similar work completed on Fresno and Nelson reservoirs provided very surprising but useful information.

Rocky Mountain Front Reservoirs – Dave Yerk



Nilan Reservoir, a popular rainbow trout fishery on the Rocky Mountain Front, suffered another severe drawdown in 2013.

Diminished reservoir elevations challenged and frustrated anglers at Nilan, Pishkun, Eureka, and Bynum reservoirs this year. By late summer there

was no boating access on any of these reservoirs. Irrigation demands resulted in reservoir drawdowns, and all of these are off-stream irrigation reservoirs. Willow Creek Reservoir west of Augusta was the only reservoir on the Rocky Mountain Front with adequate water elevation to launch a boat this past fall.

Nilan Reservoir was drawn down to a very low level again in 2013, similar to what occurred in 2012. These extensive drawdowns completely dewatered the extensive weed beds on the south and west shorelines. These weed beds harbor the aquatic insects that produce the large rainbow trout anglers enjoy so much in Nilan. The two consecutive years of drawdown resulted in a sharp decline in the body condition of the rainbow trout FWP sampled this year, which negatively affects growth and survival of these fish and ultimately the quality of the fishery.

Pishkun Reservoir is known for providing a unique multi-species fishery including yellow perch, northern pike, rainbow trout, and kokanee salmon. The perch and pike fisheries are sustained solely through natural reproduction and the rainbow trout and kokanee are stocked annually by FWP.

Recently, the reservoir appears to be supporting a better balance of these species as perch numbers have increased and the pike are not as numerous as they were historically, but are showing improved growth resulting in better quality fish. The stocked rainbow trout are not overly abundant but do grow to impressive sizes. The best time to fish for rainbows is in the spring soon after ice-out. The kokanee salmon are doing well in the reservoir and last summer fish up to 16 inches were being caught by the few anglers targeting them. Look for this fishery to build following recent stockings of large numbers of kokanee.

Bynum Reservoir has been the go to reservoir recently for anglers seeking perch. Its winter fishery has been outstanding the past couple of years and this has attracted anglers from all over Montana. In 2011, Bynum provided over 10,000 angler days with 6,700 of those days occurring during the wintertime. FWP has used this great perch fishery to introduce many students to ice fishing through its "Hooked on Fishing Program".

Unfortunately, Bynum's fishery may be short-lived. It did not receive much water from the Teton River last year and the reservoir's volume diminished to about one-quarter of its capacity after the irrigation season. Thus, it is just one more irrigation season away from being drawn down to near dead storage unless the Teton River experiences significant spring run-off in 2014 and Bynum receives a large volume of water.

If the reservoir does not receive significant water in 2014 rainbow trout plants will be cancelled. Kokanee salmon were not stocked onto the reservoir in 2013 and stocking will not resume until water conditions improve. Anglers should contact the Choteau FWP office (466-5621) to check current conditions prior to planning a trip to fish Bynum in 2014.

Willow Creek Reservoir, west of the town of Augusta, provides the most consistent rainbow trout fishery on the Rocky Mountain Front. However, the fishery is dominated by white suckers, which outnumber rainbow trout in the reservoir 10 to 1. Having this much biomass tied up in suckers greatly reduces the potential of the rainbow fishery. FWP is proposing to introduce sterile tiger musky into the reservoir to reduce sucker numbers. If tiger muskies are available, FWP hopes to go forward with this proposal in 2014. Interested anglers should stay tuned as this will involve a public review process and there will be opportunity to comment on this proposal.

Middle Missouri River Fisheries Survey – Morony Dam to the headwaters of Fort Peck – Anne Tews

Sampling conditions were generally excellent in 2013 with below normal flows; except for a brief period of June flooding. For over a decade, fisheries crews have been electrofishing five sections of the Missouri River each year between Morony Dam and Fred Robinson Bridge. This effort builds on work done in the 1980's – 1990's and allows FWP to follow population trends of several fish species. Of special note this year were northern pike, channel catfish and sauger. Northern pike are typically uncommon in this reach, but both 2012 and 2013 were big northern pike years. This year we caught northern pike from 1 to 12 pounds and they were found

throughout the river. Channel catfish were captured in phenomenal numbers in the upper river. Near Fort Benton, catch rates were 5 times the previous (2012) record high. They averaged over 3 pounds with channel catfish up to 15 pounds netted by FWP crews. Sauger numbers have continued to increase in the upstream sections but have been declining in recent years near the Kipp Recreation Area. Sauger averaged about 1 pound but several over 3 pounds were caught by FWP crews.



Channel Catfish From Middle Missouri River

Pallid Sturgeon Recovery between Morony Dam and Fort Peck – Anne Tews

In 2013, Montana FWP collaborated with PPL Montana, the U.S. Bureau of Reclamation (BOR) and the U.S. Fish and Wildlife Service on several sturgeon projects above Fort Peck. Pallid sturgeon is a federally listed endangered species and evidence of wild pallid sturgeon recruitment has not been observed here for decades. Very few wild pallid sturgeon remain in this reach, but the stocking program initiated in the 1990's has resulted in twelve year-classes above Fort Peck, with good survival of pallid sturgeon spawned after 2004. The oldest hatchery raised fish are 16-years old and weigh 2 – 13 pounds. In 2013, fisheries crews caught 451 pallid sturgeon above Fort Peck, nearly all of which were stocked. Three wild pallids were captured this year, including a wild male, last captured in 2001. It is illegal to harvest any pallid sturgeon. Permanent signs that explain the differences between

shovelnose and pallid sturgeon will be installed between Fort Benton and Fort Peck in the spring of 2014. Shovelnose sturgeon anglers should also refer to the diagram in the fishing regulations to tell the difference between the two species.

In 2013, a wild female pallid sturgeon was transported to the Miles City hatchery and used in the hatchery program; she was successfully returned to her natural habitat in July. This was the first time she was used for hatchery propagation and her eggs were an important addition to increase genetic diversity of the stocked pallid sturgeon.

Pallid sturgeon evolved in free flowing river systems with high early summer flows from snow melt. Reservoirs such as Tiber and Canyon Ferry have changed run-off pattern as well as blocking fish migration routes. Radio telemetry is an important tool to identify pallid sturgeon habitat and movement patterns. Visitors to the Upper Missouri River Breaks National Monument may see stationary solar telemetry stations on their trip (below). These stations monitor movements of radio-tagged pallid sturgeon and other migratory fish. This year, one of these stations recorded the first known migration of a hatchery raised pallid sturgeon (1997) into the Marias River.



Telemetry station Upper Missouri Breaks

The Marias River has long been recognized as an important tributary for sturgeon. It is the only tributary upstream of Fort Peck that is known to have shovelnose sturgeon. Historically pallid sturgeon were found up to Fort Benton and at the mouth of the Marias, but in recent decades, pallid

sturgeon have been most common from 10 miles upstream of the Kipp Recreation Area to the head waters of Fort Peck Reservoir. Flow patterns in the Marias changed dramatically after Tiber reservoir was completed in 1956. Montana State University, FWP and the BOR have been collaborating to determine the minimum releases needed from Tiber for sturgeon spawning. A recent MSU graduate research project determined that shovelnose sturgeon spawned in the Marias River when 4,000 cfs were released from Tiber dam, but did not find evidence of sturgeon spawning at 500 cfs. In 2012 and 2013, FWP and the BOR continued the work to narrow down sturgeon spawning flow needs in the Marias. A flow of 1,000 cfs in 2012 did not appear to initiate sturgeon spawning, but the late spring rise of 2,000 cfs in 2013 was sufficient for sturgeon to spawn in the lower Marias River. This work should be useful for dam operators to manage for native river fish along with other reservoir operation priorities.

Westslope Cutthroat Trout Restoration– David Moser

It was a busy and productive year restoring westslope cutthroat trout (westslope) in Region 4. Westslope cutthroat trout – the only native trout in the Missouri River Drainage – are currently threatened by hybridization with rainbow trout and competition with brook trout. The only feasible way of protecting and restoring pure westslope cutthroat trout is to find streams with waterfall barriers or construct man made barriers that will block upstream movement of non-native fishes.

Several projects are currently underway which restore westslope to historical habitats. Crawford Creek is a small stream that runs into Belt Creek near the Belt Creek Ranger Station. Crawford Creek currently holds a pure (not hybridized with rainbow trout) population of westslope cutthroat trout above a waterfall in its headwaters. This population has been limited to 1/4 mile of stream and is at threat of extinction. In 2012, Lewis and Clark National Forest identified a failing culvert near the mouth of Crawford Creek. Forest funds were identified to replace the failing culvert.

Additional funds (\$20,000) were acquired from



Crawford Creek culvert replacement, 2013. This culvert fish barrier will help expand and protect one mile of native westslope cutthroat trout habitat.

Future Fisheries Montana to design the new culvert as a fish barrier. After construction of the fish barrier this summer, non-native rainbow trout were removed upstream of the culvert barrier using rotenone. The treatment was successful and will allow expansion of the native westslope population downstream into an additional one mile of habitat.

In 2013, efforts continued on North Fork Highwood Creek in the Highwood Mountains. A fish barrier was constructed approximately one mile upstream of the North Fork Highwood Creek trailhead. North Fork Highwood Creek supports a small native pure population of westslope in a headwater tributary. Removal of non-native brook trout using rotenone upstream of the fish barrier is ongoing. The goal is to allow the current native westslope population to populate the stream down the constructed fish barrier. This project will expand native westslope habitat from approximately ½ mile to a total of 6 miles of stream. Projects like this will go a long way toward prevention of listing of the species under the Endangered Species Act.

In 2013, fertilized eggs collected from a small stream in the Castle Mountains (Lone Willow Creek) were stocked into Jumping Creek upstream of constructed barrier and upstream of a constructed barrier in Lake Creek and Crater Lake. Both these streams are located in the Little Belt Mountains. Historically these streams and Crater Lake would have supported native westslope. Prior to construction of these fish

barriers, non-native rainbow trout and brook trout were the only species present.



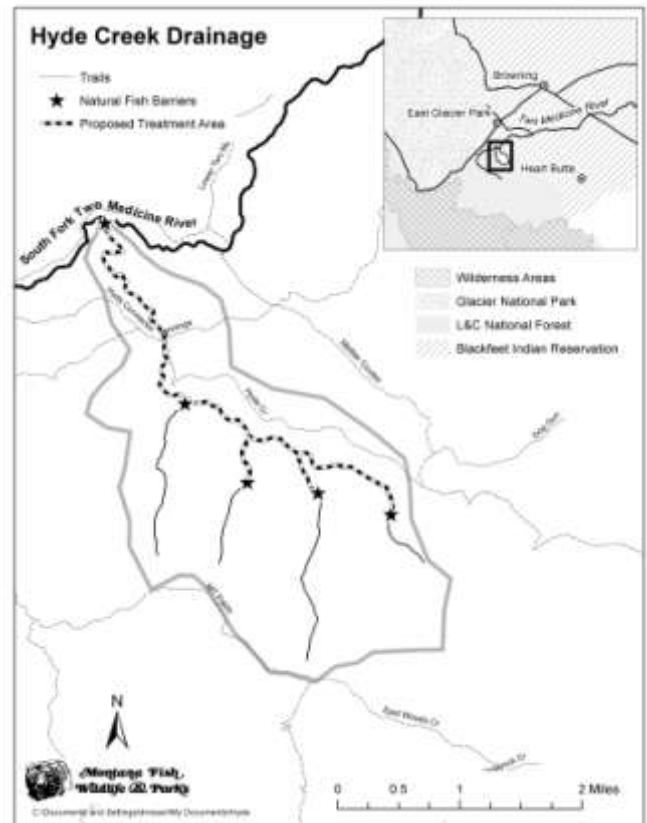
Egg Collection from Lone Willow Creek westslope cutthroat trout for stocking in Lake and Jumping creeks

Another project initiated in 2013 was the transfer of non-hybridized westslope from Sydney Creek, a small tributary in the South Fork Two Medicine drainage, to fishless habitat in Woods Creek – an adjacent drainage. Woods Creek is fishless because of natural waterfall. Sydney Creek holds a very small pure westslope population of less than 150 individual fish. Because of the low population size in Sydney Creek, only 16 fish were transferred by backpack to Woods Creek in 2013. For this project to succeed, 10 to 15 fish will have to be transferred to Woods Creek over the next 5 to 7 years. Small transfers will prevent genetic harm to the Sydney Creek donor population.

A project to restore westslope to Hyde Creek, a tributary to the South Fork Two Medicine Drainage is currently under environmental review. This project would involve removal of brook trout upstream of a natural waterfall and replacement with locally obtained westslope cutthroat trout.

The Two Medicine drainage currently supports only two small populations of westslope - Sydney Creek and Midvale Creek. Midvale Creek westslope are in the early stages of hybridization with rainbow trout because of a failure of an old concrete dam. We hope to individually identify pure fish in Midvale Creek and move them to Hyde Creek. Without this project the Midvale Creek westslope population faces imminent extinction.

The Dry Fork Drainage has a long history of mining. The Block P mine and area mines were important producers of lead and silver from before the turn of the century into the 1920s. The area was designated a superfund site by the Environmental Protection Agency (EPA) due to



Map showing proposed westslope restoration project in Hyde Creek, South Fork Two Medicine drainage. Dotted line represents current brook trout population slated for replacement with native westslope cutthroat trout.

the extent of metals contamination in the wastes and water of the area. Recently, efforts have begun to reclaim mine waste in the headwaters of Dry Fork Creek. Previously fishless areas of upper Dry Fork, specifically Galena Creek may at some time be able to support fish populations. The improvement of conditions for fish will have the unwanted effect of putting existing populations of westslope cutthroat trout upstream of currently fishless areas at increased risk of competition and hybridization with non-native trout (brook trout and rainbow trout).

To mitigate for the potential decrease in genetic purity and numbers of westslope as a result of mine reclamation, we propose construction of a

fish barrier approximately 2 miles upstream of the confluence of Dry Fork and Belt creeks. Funding for construction of a fish barrier was obtained from several competitive grants, including, the Resource Development Grant Program, PPL Montana, and Future Fisheries Montana. For the project to be fully successful, non-native fishes upstream of the fish barrier location would need to be removed from approximately 20 miles of stream. The goal of this project is to protect and expand six existing headwater populations of westslope cutthroat trout downstream into mainstem Dry Fork Belt Creek.

Objectives include (1) protection of native westslope through construction of a fish barrier approximately 2 miles upstream of the confluence of Belt Creek and Dry Fork Belt Creek; (2) Remove threat from existing populations of non-native fishes through the use of piscicides in approximately 20 miles of Dry Fork Creek, and (3) aid expansion of westslope downstream through collection, fertilization, and transplantation of eggs from westslope in tributaries to downstream areas of Dry Fork Creek. This project would meet the goals of the Montana Statewide Fisheries Management Plan (<http://fwp.mt.gov/fishAndWildlife/management/fisheries/statewidePlan/>) and would go a long way toward restoration westslope in the Belt Creek drainage.

Montana Fish, Wildlife & Parks would be responsible for coordinating construction of the fish barrier, non-native fish removals, and transfers of westslope. Construction of the fish barrier and non-native fish removals would be completed by 2016. Complete restoration of a connected Dry Fork Belt Creek westslope population in 26 miles of stream would be completed by 2018. This project will undergo environmental review and public outreach during winter/spring of 2013.

REGION 5 SOUTH CENTRAL MONTANA

Bighorn River – Mike Ruggles

The Bighorn River anglers have experienced a dynamic fishery since the 2011 flood. High flows in 2011 inundated and improved fish habitat

creating a very good population of brown trout and supporting good growth in rainbow trout. In 2012 river flows were reduced in response to poor snow pack leaving a robust abundant population of brown trout with less habitat, leading to a significant die off of spawning brown trout in the fall. In 2013, water was conserved in the basin as snowpack and rainfall totals remained below average. This resulted in Bighorn River releases below preferred fisheries flows the entire 2103 water year. The overall fishery remains robust but abundances have declined as water levels have reduced available habitat. Additionally, rainbow trout have replaced some of the brown trout that have been lost. Water conditions were improving in the fall of 2013 and releases increased but still remained less than preferred fishery flow of 2,500 cfs.



Photo by Doug Haacke taken during the Bighorn Youth Adventure sponsored by the Bighorn River Alliance.

Flow recommendations were made from measurements taken as side channels became inundated. Side channels provide diverse habitat which in turn supports strong recruitment of trout in the Bighorn River. Inundation of the side

channels may not occur at some stages even if discharge requests are met as the BOR changes stage while maintaining a specific discharge from the dam. These stage changes are related to algae growth that can alter the stage of the river causing the BOR to change discharge to match the stream rating table. Investigation into the continual water stage changes should be initiated to determine if fisheries flows should be requested by stage rather than discharge to meet the intentions of the flow requirements that support the Bighorn Fishery.

2013 population estimates indicated a slight reduction of brown trout and rainbow trout in the upper section between Three mile and Bighorn Fishing Access site. A total estimate for fish over 9 inches was 3,200 per mile. Separate estimates by species resulted in 2,200 brown trout and 860 rainbow per mile bigger than 9 inches. This reduction was expected as the biomass of trout created in the good 2011 water year couldn't be supported by a much smaller Bighorn River in 2012 and 2103. The most abundant size of rainbow trout sampled was in the length range of 15 to 18 inches and brown trout from 14 to 16 inches. Estimates don't typically include fish less than 8 or 9 inches in the Bighorn, as recapture numbers necessary for a valid estimate can be hard to capture. A review of the number of fish collected smaller than 9 inches can provide insight for recruitment of young fish to sizes anglers prefer. Rainbow trout from 3 to 4 inches were more regularly caught in 2013 than they have been for several years, while brown trout less than 9 inches showed marked declines from 2012. In 2014, rainbows are expected to make a modest increase and brown trout to remain stable. Both species should have good representation of fish between 16 to 18 inches.

The Mallards section fall estimate for rainbow and brown trout indicated 1,300 brown trout per mile and 400 rainbows per mile. Similar to the upstream spring estimate at the Bighorn Fishing Access Site, brown trout declined from high estimates in 2011 and 2012 but remain above the 27 year average. Rainbow trout numbers improved considerably from the 2012 estimate of 90 rainbow trout per mile with rainbow numbers approaching the long term average. Brown trout between 11 and 15 inches were most abundant

with a noted reduction in the number of brown trout from 4 to 9 inches from 2012 to 2013. Rainbow trout were most abundant from 15 to 17 inches with a notable increase in the number of 5 to 8 inch rainbows that were essentially not found in 2012. The outlook for 2014 for rainbows is for continued improvement in numbers of fish per mile with the fish from 10 to 15 inches being most abundant while maintaining a fair number of fish from 17 to 20 inches. Brown trout expectations are for stable to slightly declining numbers in this section with a wide variety of sizes available from 10 to 18 inches with a few reaching into the 22 to 24 inch size range.

Thanks to all the anglers who love the Bighorn and help out with management needs and to those that graciously put up with us while we conduct our sampling each year. Hope to see you on the water.

Bighorn Reservoir – Mike Ruggles

Bighorn Reservoir has undergone stocking strategy changes since 2009 as a result of increased awareness of the unique sauger population in the reservoir, and the availability of triploid (sterile) walleye fingerlings. The goal of this new stocking program is to reduce the threat of hybridization between walleye and sauger and maintain or improve a combined sauger/walleye fishery. Since most sauger don't grow as large as walleye, triploid walleye should provide the memorable and trophy size component of this fishery with some walleye reaching 25 inches or larger.



Photo by Mike Ruggles of Brad Olszewski with nice walleye from Bighorn Reservoir

This process of creating triploid or sterile fish has been applied to rainbow trout stocks in many states including Montana for some time, and to other species such as salmon, catfish, and some carp species in the US and other countries. This process is relatively new for walleye, but several Midwest and Western states including Montana have been developing the process. Nearly a decade ago the Fort Peck walleye egg take staff and Miles City Fish Hatchery staff partnered with Idaho Fish and Game staff to experimentally treat walleye eggs in a hydraulic pressure chamber to alter the resulting walleye into triploid fish. The process has been experimental since it started and continues to be experimental at this time. However, stocking Bighorn Reservoir may require production to change from experimental to actual production by the year 2017.

In 2009, the first triploid walleye stock in Montana went into Bighorn Reservoir at the Ok-A-Beh ramp. Since this initial plant, only triploid walleye have been stocked into Bighorn Lake.

So, why the change? In short, the change meets two objectives: sauger conservation by reducing the threat of hybridization while maintaining the ability to support a walleye fishery in Bighorn Reservoir with the availability of triploid walleye. Sauger, a species of concern in Montana and Wyoming, are a cousin of walleye so closely related they can hybridize resulting in saugeye. Hybrids dilute genetic purity of both sauger and walleye and could threaten persistence of sauger populations. Sauger in Montana have been greatly reduced in the areas they once occupied and are less abundant than thought to be in the past in many areas where they are still found. Likewise, in Wyoming sauger have greatly declined or been extirpated from some drainages. The Bighorn system has the best remaining sauger population in Wyoming and sauger in the Bighorn and Wind Rivers in Wyoming have consistently tested genetically pure despite walleye being present in the system. Additionally, the sauger in the Bighorn River in Wyoming is genetically unique from other sauger populations in Montana. Wyoming Fish and Game ceased stocking walleye into Bighorn Reservoir in Wyoming in 1999. Montana was requested to cease stocking of walleye to help protect the sauger in the reservoir and in the Bighorn River.

Montana Fish, Wildlife & Parks continued stocking walleye in the reservoir as the Montana portion of the reservoir, particularly the lower reservoir fishery was dominated by walleye that relied on regular stocking. The reservoir changed the river from a warm turbid flowing river to a much cooler and clear reservoir which no longer provides spawning for sauger and has had limited success in naturally producing walleye.

In 2009, the Fort Peck Hatchery successfully produced enough triploid fingerlings to stock if a home could be found for them. The decision was made to put those fish in Bighorn Reservoir. In 2009 and 2010 the Billings area fish biologist went to local angler groups to talk about experimentally ceasing walleye stocks for 3 to 6 years and stocking only sauger for 3 of those 6 years. The potential new stocking scenario developed with input from Walleyes Unlimited, Walleyes Forever, and Pikemasters chapters in Billings was presented to fish managers in Montana and Wyoming. The Billings Chapter of Walleyes Unlimited played a leading role by proposing to continue with a triploid stock of walleye and all groups supported stocking sauger to increase or maintain walleye/sauger densities for anglers. In 2010, fish biologists and managers from Montana and Wyoming mulled over the idea of stocking triploid walleye in Montana and supplementing the stocks with sauger from Wyoming. Wyoming was willing to initiate a sauger spawn in Wyoming to help Montana support the recreational fishery in the reservoir. While preferring all walleye stocking stop, Wyoming supported triploid walleye stocking over fertile walleye stocking. An environmental assessment was sent out for public comment and it was finalized with triploid walleye and sauger stocking to be initiated with a goal of 100,000 triploid walleye and 250,000 to 500,000 sauger fingerling to be stocked in 2011, 2012, and 2013. Triploid walleye would continue to be stocked from 2014 to 2016 with a goal of 100,000 to 250,000 fingerlings. Three years of successful 100,000 triploid walleye and 250,000 sauger fingerling are expected in the 6 year period if not consecutively attained in the first 3 years. Overall, the program has not been successful and at the same time has not been totally unsuccessful.

In 2011 triploid walleye and sauger stocks resulted in 625 walleye and 48,000 sauger being

stocked, neither met objectives. In 2012, 127,500 walleye were stocked, and although the sauger spawn produced eggs no fingerlings were produced. In 2013, 68,500 walleye and 105,000 sauger were stocked being the best year yet, but still short a total of 30,000 walleye and 145,000 sauger for a “successful” year. Much has been learned about both sauger and triploid walleye production in the past few years. On average for 2009 to 2013 walleye egg takes, the percent of eggs that were fertilized and eyed-up to become fry has been 57% for regular walleye production and 38% for triploid production or nearly a 20% difference. This is a significant number of potential fish lost prior to eye-up. A direct comparison from fry to fingerling can’t legitimately be made at this time. Triploid fingerlings have been raised to an advanced size which was necessary to get the fish large enough to test for triploidy. Rearing walleye to advanced fingerling size comes at a cost which is a higher rate of cannibalism resulting in fewer fingerlings produced. Future stocks of triploid walleye won’t have to be raised to an advanced size as triploidy can now be tested at the fry stage. With continued efforts it is likely eye-up and total as returns from the ponds can be improved. Eye-up for triploid walleye was as high as 60% in one of the last 5 years nearly equaling the best rate of 65% for normal production the same year. Therefore, lower average eye-up isn’t entirely tied to the process of triploid production and may be more related to timing of the triploid egg take within the spawn.

Although the total number of eggs needed to produce triploid walleye fingerlings may be more than the total number for normal fingerling production, the number of eggs to meet the four million fry and half million fingerling stocking request for Bighorn Reservoir prior to 2009 is higher than the total needed for the 100,000 to 250,000 triploid walleye currently being requested. Even if the requested stock for triploid walleye were increased to 500,000 normal size fingerling in 2017 it’s likely the total egg needs would be less than eggs needed to meet the fry and fingerling request of the past. The Fort Peck Hatchery staff has done a great job working on this effort and has provided fish despite tough weather conditions during the past few spawns.

Have the triploid stocks been working? Yes. Annually for two nights, FWP staff captures walleye in the Ok-A-Beh area of Bighorn Reservoir in the spring during the walleye spawning period to monitor walleye abundance and size structure. Non-lethal blood samples can be taken from walleye to test if they are diploid or triploid. In 2011, 20 blood samples were taken from walleye of suitable size/age to possibly be triploid i.e. the 1 and 2 year old walleye less than 10 to 13” with most 2 year olds being less than 10 inches for walleye. Sixty-three percent of all these fish were triploid and all fish less than 8 inches were triploid with a mix of both diploid and triploid from 8.1 to 9.3 inches. All walleye larger than 9.4 inches sampled were diploid and likely 3 year-old fish. In 2012, this process was repeated but the fish were a year older so more samples were taken as the size increased to 15 inches to account for the 3rd year of growth for the 2009 stocked fish. A total of 50 blood samples were taken with 80% of all the samples found to be triploid. The largest triploid walleye was already 15 inches which is very good growth for a 3 year-old walleye. Triploid walleye ranged in size from 4.8 inches to the 15 inches with fish from all 3 years of triploid stocking being found. All years also had a few diploid fish collected indicating natural reproduction does occur but compared to stocking has a limited effect in at least the Ok-A-Beh area. Future work could determine the relative contribution of triploid stocking using our netting data and this information could help us understand the dispersal rate from a stocking site as all triploids have been stocked at Ok-A-Beh so far. Plans to start determining age of walleye in the reservoir combined with documenting triploid and diploid fish could help determine if one group grows differently than another over time. Many people believe triploid fish grow faster than diploid fish. This effort could help determine if those claims are true or not.

It is exciting to have the chance to work on this project balancing native and non-native fisheries, recreational and conservation fisheries. Thanks to all the Montana Fish, Wildlife & Parks staff at Fort Peck involved with the walleye egg take and the dozens of volunteers that help out each year, to the Miles City staff for their efforts to rear sauger, and to the Wyoming Game and Fish staff that have contributed considerable efforts to provide

the sauger eggs. Thanks to the anglers and angler groups for taking the time to help create the plan which is currently being evaluated.

Cooney Reservoir – Jason Rhoten

Cooney Reservoir's close proximity to Billings and the limited flat-water opportunities in the region draw many anglers to the reservoir every year. Roughly 10 different fish species reside in Cooney, however most angling effort is geared towards walleye and rainbow trout during the open water months. The reservoir fishery was historically managed solely for rainbow trout. Walleye were first introduced in 1984 and stocked until 2005 when adequate natural walleye recruitment was observed during spring and fall sampling efforts. Spring electrofishing surveys in 2013 indicate a healthy level of juvenile walleye recruitment and some very large old walleyes. Fall gill netting efforts resulted in the third highest walleye catch rate observed since their introduction. Fall sampling yielded a walleye length average of 13.1 inches. Walleye tagging efforts were continued in 2013 in attempt to further understand walleye growth rates and harvest rates within Cooney Reservoir.

In recent years rainbow trout numbers have declined in the reservoir but fall gill netting in 2013 indicates a slight rebound as catch rates were the highest observed since 2007. In addition to walleye and rainbow trout, burbot are gaining attention of ice fishing anglers at Cooney Reservoir. Biologists are trying to closely monitor this growing population and the impact of this additional predator on the limit forage in Cooney Reservoir. Targeted burbot sampling is conducted on a yearly frequency and indicates a growing burbot population.

Boulder River, Dry Creek Canal – Jason Rhoten

The Dry Creek Canal is one of the largest irrigation ditches in the Boulder River drainage. The canal headgate is located on the Boulder River approximately 8 river miles upstream from the rivers confluence with the Yellowstone River. Every year thousands of fish from the Boulder River enter the canal and become trapped in the ditch when irrigation water is turned off. Due to its

size and gradient, the upper section of ditch provides spawning habitat for entrained brown trout and many brown trout redds (egg nests) are observed in this section. While spawning habitat in the ditch is exceptional, the ditch becomes completely dry after spawning and all of the potential progeny are killed.



Maintained flow in upper Dry Creek Canal to protect brown trout eggs

Fish screens were proposed at this location to prevent entrainment but were rejected due to high initial cost, high maintenance cost and concerns from multiple irrigators. Multiple agencies and private landowners worked cooperatively to derive a solution to the entrainment problem. To solve the problem of fish entrainment and fish egg mortality, a flow of water is now maintained in the upper stretch of ditch throughout the entire year.



Newly constructed Dry Creek Canal fish return channel

In the spring of 2013 construction of a new water waste gate and return channel was completed that essentially allows this upper section of ditch to function as a side channel to the Boulder River. Entrained fish can now return safely to the Boulder River via the return channel and eggs laid by brown trout in the fall now have water flowing over them even when irrigation water is turned off. These eggs can now survive and fry can emerge from the gravel and return downstream to the Boulder River prior to irrigation season. This is a relatively new concept in an area where fish screens have been proposed but rejected.

Mountain Lakes – Jason Rhoten



Mountain lake personnel with a Yellowstone cutthroat trout

Fisheries personnel sample high-elevation lakes in the Absaroka-Beartooth Wilderness Area and

Crazy Mountains during the months of July and August each summer. Of the 948 lakes in the Absaroka-Beartooth Wilderness, roughly 320 of these lakes provide fishing opportunities. Species found in these lakes include Yellowstone cutthroat trout, brook trout, rainbow trout, golden trout, arctic grayling and variations of the cutthroat/rainbow/golden trout hybrids. Lakes are either self-sustaining or are stocked on a three and four year stocking cycle (for those fisheries that receive the most fishing pressure) or on six to eight year cycles. Each summer staff strives to sample at least 30 of these lakes. Fisheries crews exceeded this goal in 2013 when they visited 52 lakes. The crew's fish and habitat sampling efforts help guide future management decisions in the fish-bearing lakes and provide updated information for anglers seeking a fishing adventure in the Absaroka-Beartooth Wilderness. The Absaroka-Beartooth Mountain Lakes Guide (includes information on lakes in the Crazy Mountains) is available electronically at <http://fwp.mt.gov/regions/r5/mountainlakes.html>.

Sage Creek, Pryor Mountains – Mike Ruggles

Sage Creek in the Pryor Mountains was historically a Yellowstone cutthroat trout stream. Cutthroat had been extirpated over time by overexploitation and by competition with stocked rainbow and brook trout. In 2010, the removal of brook and rainbow trout was initiated followed with a second treatment in 2011. The stream and its tributaries were surveyed in July of 2012 with no brook trout found. Survey work in 2013 was conducted to examine the size of cutthroat and to search for brook trout. Stocked cutthroat have been growing well with many fish found in 2013 ranging from 8 to 12 inches. Natural reproduction is expected to start in 2014 or 2015. In 2013, brook trout were found in an area previously considered to be fishless in the upper reaches of the North Fork. This area had been surveyed and had never been treated. An environmental assessment was released to the public to gather comments for extension in time for future treatments and to conduct a treatment in 2013. It was approved and a treatment of the upper reaches of the North Fork to just upstream of the confluence with the South Fork of Sage Creek was conducted. Brook trout were not found in any

other locations in previously treated areas. In the absence of brook trout Yellowstone cutthroat stocking will cease and the stream will be surveyed again in 2014 and 2015 to evaluate natural reproduction. This has been a large project involving many private landowners, the Crow Tribe, United States Forest Service, Fish and Wildlife Service, Bureau of Land Management, Bureau of Indian Affairs and Montana Fish, Wildlife & Parks. This project would not have been possible without the incredible understanding and patience of the landowners on whose land most of this project took place and the dedication of individuals from the various agencies. To all of you thanks for a job well done!



Photo by Mike Ruggles FWP of Ben Bailey measuring a Yellowstone Cutthroat from Sage Creek spring 2013

REGION 6 NORTHEAST MONTANA

Fort Peck Reservoir – Heath Headley

Fort Peck Reservoir elevations fluctuated little compared to previous years. Reservoir elevations rose only a foot from January into June due to limited snow pack in the mountains and plains with little spring precipitation. As a result, no shoreline vegetation was flooded in 2013. Since the summer, water levels have decreased four feet and are forecasted to remain relatively stable during the winter months. Reservoir elevations are expected to rise approximately seven feet if mountain snowpack and spring precipitation conditions are “average”. Barring any significant

decreases in reservoir elevation, all boat ramps should be usable in 2014 with the exception of Crooked Creek.



Volunteers Working At The Annual walleye egg-taking operation on Fort Peck Reservoir

The annual walleye egg-taking operation on Fort Peck Reservoir continues to be plagued by lingering ice cover and cooler than average temperatures. Thus, only 40 million walleye eggs were collected in 2013. However, this effort still provided enough eggs that would eventually turn into fry to fill all the rearing ponds of the Fort Peck and Miles City Fish Hatcheries for fingerling production. In the end, 9.5 million fry and 2.8 million fingerlings were stocked back into Fort Peck Reservoir in 2013. This operation requires a strong volunteer program in order to be successful. If anyone is interested in assisting with the walleye egg-take in April, please call (406) 526-3471 to join the other volunteers that participate annually. It's a great way to learn more about the walleye fishery, see large walleye, and be part of the statewide egg-take that benefits other Montana walleye fisheries.

Annual gill netting surveys indicated walleye and northern pike were the most abundant species captured in 2013, but both declined from record abundance levels the previous year. Relative abundance of walleye decreased from 6.8 per net in 2012 to 4.8 per net in 2013. However, this is still above the long-term average of 3.6 per net. Walleye in the 15 to 20 inch range continue to be the most abundant due to a very large group of five-year old fish, but anglers can be encouraged to know that good numbers of walleye greater

than 25 inches continue to be measured during these sampling efforts.



Melvin McDonold catches new Montana state record Smallmouth Bass at 22.5 inches and 6.7 pounds on August 30, 2013 on Fort Peck Reservoir

Walleye were most abundant in the Big Dry Arm area of the reservoir during the July-August sampling. Northern pike relative abundance decreased from 5.0 in 2012 to 3.2 per net in 2013. Similar to walleye, northern pike relative abundance is still above the long-term average. This is attributed to increased spawning and rearing habitat created by the flooded shoreline vegetation over the last few years. Most pike sampled during this time were between 20 and 28 inches and averaged close to 4 pounds.

If walleye or northern pike aren't cooperating, anglers could try their luck for smallmouth bass or channel catfish. Smallmouth bass populations continue to expand throughout the reservoir as indicated by our sampling surveys. Anglers should expect decent catches of 12 to 14 inch fish but also have a shot at others up to 18 inches. Best locations during the summer for smallmouth bass are the Big Dry Arm and upstream from Bone Trail. Another overlooked angling opportunity is channel catfish. Channel catfish are typically one of the most abundant game fish captured during annual gill netting surveys especially in the upper portion of the reservoir. In 2013, average size of channel catfish sampled was 17.5 inches and just under 2 pounds. While a majority of channel catfish and smallmouth bass anglers catch will be mid-sized, anglers shouldn't overlook that Fort Peck Reservoir produced new state records for both species in 2013!



Dan Davenport catches new Montana state record Channel Catfish at 41.75 inches 34.8 pounds on July 26, 2013 on Fort Peck Reservoir

Forage fish surveys on Fort Peck Reservoir showed mixed results in 2013. Shoreline forage fish (yellow perch, crappie, spottail shiners, and emerald shiners) abundance decreased in 2013 following declining reservoir elevations. Most of these shoreline forage fish are now at or below long-term averages.

Fresno Reservoir – Cody Nagel

Above average water conditions in Fresno Reservoir continued in 2013. Reservoir pool levels stayed above average from March through June which again created ideal spawning conditions for all species. Summer seining efforts identified good natural reproduction for both walleye and spottail shiners, and average reproduction for yellow perch, black crappie, and northern pike.

Fresno's walleye population continues to mature and more adult fish are spawning in the spring. High walleye densities have contributed to a predator dominated system which strongly influences the forage base. This could potentially hurt the walleye population if below average water conditions occur and spawning habitat for forage fish is reduced. In 2013, no walleye fingerlings were stocked to further evaluate the natural reproduction potential of the current population, and to create a more self-sustaining and balanced walleye population. Summer seining surveys revealed good spawning success and excellent growth of young-of-year walleye. Standard fall gill netting revealed walleye relative abundance is at an all-time high with 29 walleye/net. The high walleye abundance over the last seven years was largely influenced by relatively stable reservoir levels, excellent spawning conditions, and good natural reproduction. Fresno contains multiple age classes of walleye, with high densities of 12-18 inch fish (2-6 year old fish). Fishing opportunities for walleye will once again be excellent in 2014. Northern pike relative abundance is close to historic levels (4 pike/net) with the majority of these fish ranging from 20-28 inches.

Yellow perch abundance has fluctuated the last few years and there has been concern pertaining to the long-term status of the forage base in Fresno Reservoir. Excellent water conditions in Fresno over the last six years have allowed the reservoir to remain relatively stable. High water events during April and May have flooded terrestrial vegetation, creating optimal spawning conditions for yellow perch.

Extremely good spawning conditions and low perch densities prompted FWP to augment the population with adult pre-spawn yellow perch in April the last three years to help boost reproductive success and perch abundance under these ideal water conditions. Furthermore, water levels during the summer and winter months have remained 12-16 feet higher than average, keeping structure such as rocks and boulders flooded, creating good rearing habitat for young-of-year yellow perch, crappie, and spottail shiners. Over the last six years yellow perch and black crappie have had very good reproductive success. Yet adult densities continue to decline.



Young Angler with Yellow Perch

Fall gill net surveys showed yellow perch relative abundance dropped from 6.1 (2011) to 3 yellow perch/net (2013) and black crappie dropped from 3.6 (2011) to 0.5 crappie/net (2013). Although successful spawning has been documented for forage species such as yellow perch and black crappie, drops in adult abundances are an indication of the high predator densities that are present in Fresno Reservoir. The suppression of forage species under ideal water conditions and utilizing supplemental plants of adult pre-spawn yellow perch are of concern going forward. The fishery in Fresno is highly dependent on water levels. Water levels greatly impact the reproduction, survival, and condition of forage and sport fish throughout the reservoir.

Anglers shouldn't overlook the tail-waters below Fresno Dam on the Milk River as fishing opportunities for walleye, northern pike, lake

whitefish, and rainbow trout can be excellent at times.

Nelson Reservoir – Cody Nagel

Nelson Reservoir remained a favorite among anglers in 2013. Summer seining efforts revealed spawning success for most species was similar to historic levels, with yellow perch and black crappie both having successful spawns. Annual fall gillnetting indicated a healthy yellow perch population with 15 yellow perch/net. The yellow perch population is mainly comprised of 6-10 inch fish. Northern pike relative abundance was average at 2.5 pike/net with a good mix of year-classes and northern pike up to 40 inches. The majority of northern pike sampled ranged from 21-28 inches. Walleye relative abundance was similar to long-term averages with 13 walleye/net. The walleye population is comprised of mostly 10-18 inch fish. Excellent water and forage conditions are the primary factors driving this excellent fishery.

Beaver Creek Reservoir and Bearpaw Lake – Cody Nagel

Water conditions were excellent in 2013 and provided good spawning conditions for most species within Beaver Creek Reservoir. Summer seining efforts identified one of the best perch spawns in 15 years. Fall sampling surveys revealed rainbow trout relative abundance declined to 5.3 trout/net. Rainbow trout ranged in length from 10-13 inches. Walleye abundance remained stable at 2.5 walleye/net and ranged in length from 8-14 inches. Yellow perch abundance remained high at 26 perch/net. Currently, the perch population is comprised of 9 inch fish and anglers can expect good fishing opportunities the next couple years.

This was the third time in four years that water was going through the overflow on Beaver Creek Dam for a period of time. This has resulted in some flushing losses of rainbow trout and walleye. FWP will continue to annually stock 50,000 rainbow trout and 15,000 walleye and these populations will continue to grow and mature.



Beaver Creek Reservoir parking lot in June 2013

Bearpaw Lake is managed primarily for trout. Fall surveys revealed rainbow trout abundance remains high (24 trout/net). The majority of trout ranged from 10-12 inches. A smallmouth bass and walleye fishery also exist and relative abundance of both species remained at historic levels (1.7 smallmouth bass/net; 0.3 walleye/net).

Havre Area Ponds – Cody Nagel

Fish, Wildlife, and Parks manages roughly 100 small ponds and reservoirs located on both public and private property throughout Hill, Blaine, and Phillips Counties. The fisheries are very diverse, with some ponds being managed as rainbow or brook trout fisheries and others as warm water fisheries that could contain bluegill, yellow perch, largemouth bass, northern pike, walleye, tiger muskie, black crappie, or channel catfish.

Many ponds that were once chronically dewatered have filled and remained high over the past three years, creating ideal growing conditions for all species. Rainbow trout growth has been excellent in reservoirs like Dry Fork, Choteau, Sentinel, King, Douchette, Grasshopper, Faber, and North Faber. Northern pike densities in PR 161, Ester, and Wildhorse Reservoirs are at very good levels. Yellow perch populations in Bison Bone, Dry Fork, Anita and Reser Reservoir are at very good levels, with foot long perch being reported in some ponds.

Anglers wanting to experience the excellent fishing some of these ponds have to offer are encouraged to stop by the Havre or Glasgow FWP

office and pick up the latest version of the Region 6 pond guide or download it from the Region 6 webpage located on the FWP website. The fisheries on some of these ponds are greatly affected by water levels and overwinter conditions. Anglers should be aware that landowner permission may be required to access some of these ponds and should plan accordingly.



Nice Bluegill From One Of Region 6's Many Ponds

Upper Missouri River – Cody Nagel

A valuable recreational snag fishery occurs each year for paddlefish above Fort Peck Reservoir in areas down river of the Fred Robinson Bridge. In recent years, harvest of Fort Peck paddlefish has varied with annual river discharges, but has typically ranged between 300 and 600 fish. Historically, fishermen have caught female paddlefish over 100 lbs and up to 56 years old. Currently, the adult population is comprised of fish between 13 and 37 years old.

In 2013, spring flows were well below average early with a small pulse in mid-May. This resulted in less than ideal spawning conditions and young of year visual surveys conducted in August reflected that. However, the long-term sustainability of this population looks good as reproductive success was above average in 2008 and 2010, with an exceptional year-class produced in 2011. Anglers can expect these fish to make their first spawning run up the Missouri River in 7-14 years. Males mature around age 10 and females around age 15.

FWP will continue to tag paddlefish and encourage anglers to return tags with information on location and size of fish harvested to the Havre Area Resource Office. This information allows biologists to determine survival, harvest, and growth rates of paddlefish in the Upper Missouri River. The angler will also get information back pertaining to the location, size, and date the paddlefish was originally tagged. The paddlefish population remains good and anglers should expect another great spawning run in 2014.

Pallid Sturgeon Downstream of Fort Peck Dam – Tyler Haddix

The 2013 field season was the eighth consecutive year the pallid sturgeon population assessment team has sampled pallid sturgeon and other fishes in the lower Missouri River. The good news is that the hatchery produced pallid sturgeon stocked in the river since 1998 are surviving and growing. The largest hatchery reared pallid sturgeon sampled in the Missouri River downstream of Fort Peck Dam was captured in 2013 near Wolf Point, it measured 45 inches in length and weighed 17.6 lbs. This fish was from the 1997 year class, which was the first year that pallid sturgeon were produced in the hatchery. FWP continues to study survival rates, body condition, habitat use and migrations of the fish stocked into the Missouri River. In addition, FWP is currently implanting larger hatchery reared pallid sturgeon with radio transmitters. These radio tagged fish are being monitored using both ground based telemetry stations and manual boat tracking. This is very similar to what FWP has been doing with the remaining wild pallid sturgeon, where almost half of the population currently has radio transmitters implanted in them. Monitoring the behaviors and movements of the hatchery produced fish as they reach sexual maturity will allow us to understand if they behave similar to the existing wild fish, or if they exhibit a different behavior.

In 2013 a wild adult female pallid sturgeon gave us further clues into how Fort Peck Dam has altered the behavior of these endangered fish. This particular fish migrated up the Missouri River approximately 175 miles and entered the Milk River. She then went downstream into the

Missouri and spent a little time looking around, where biologists captured her and checked her for



1997 Year Class Hatchery Pallid Sturgeon Captured Near Wolf Point, MT

eggs. She still held all her eggs and was likely looking for an area to spawn. However, instead of spawning she bolted downstream and made the long migration into the Yellowstone River (another 175 mile trip), where biologists observed her spawning. This behavior was in part similar to the behavior we witnessed in 2011 when flows in the Missouri River were higher, and several adults made their way to the area of Fort Peck Dam and successful spawning did occur. The part that was different in 2013 was that something wasn't quite right for spawning to occur in the Missouri River. The main difference was flows released from Fort Peck Dam were not conducive to pallid spawning. This triggered the fish to look for better conditions. The data FWP has collected on these majestic fish continues to point the need for altered flows from Fort Peck Dam, which is impeding adults to migrate up and spawn within the Missouri River.

Missouri River Dredge Cuts - Tyler Haddix

FWP continues to monitor the fisheries of the Missouri River Dredge Cuts, a popular fishery and water based recreational area in Valley County. Walleye densities in the Dredge Cuts were at an all time high in the fall of 2011, which was mainly due to fish being flushed from Fort Peck Reservoir into the Dredge Cuts from the water going over the Fort Peck Spillway. Since 2011, the densities of walleyes have continued to decrease, while

sauger densities are on the rise. In addition, the Dredge Cuts hold an excellent population of northern pike, paddlefish and a very under-utilized species, the channel catfish. FWP continues to see excellent numbers of channel catfish in the Dredge Cuts and some anglers have reported fish in the 13 lb range. If someone is looking for an easy accessible place to take a kid to catch a lot of fish, think about channel catfish in the Dredge Cuts!

Prairie Ponds in Eastern Part of Region 6 - Tyler Haddix

Several private ponds in Daniels and Sheridan Counties have been producing excellent rainbow trout fishing over the last couple of years. When the conditions are right these fish grow extremely fast and it is not uncommon to have 2.5 to 3 lb rainbows after spending only one winter in the ponds. In addition to rainbow trout, several ponds in the area have been producing eater sized yellow perch.



Rainbow Trout Sampled From One Of The Many Small Ponds In Northeast Montana

While a majority of these ponds are privately owned, Region 6 produces a Prairie Ponds Fishing Guide that contains the contact information for a majority of these ponds, the booklet can be found at FWP headquarters in Glasgow and the area resource office in Havre.

Opportunities for ice fishing for yellow perch exist on several ponds in south Valley County and local anglers have been telling stories of abundant jumbo perch. The ponds of south Valley County

are a mix of public and private ownership, but again the Region 6 Prairie Ponds booklet is a great source of information that can guide anglers to some excellent ice fishing ponds.

FWP continues to monitor the prairie ponds within Region 6 and actively manages them through stocking and wild fish transfers. While these prairie ponds can be very productive with the right conditions, they are also vulnerable to winter and summer kills. Therefore it is necessary to monitor them on a regular basis to see what management actions are needed. If you are out on the prairie and fish one of these ponds, FWP would like to hear from you about your experience. Knowing that a fishery is fishing good or poor help with the prioritization of what ponds need to be sampled on a given year.

Lower Milk River - Tyler Haddix

FWP has been sampling both sauger and channel catfish on the lower Milk River in Valley County. The objective of these monitoring efforts is to better understand current status of the populations, understand how populations are influenced by different water years and to make sure harvest isn't negatively impacting the quality of the fisheries. A majority of the sauger that are sampled in the lower Milk River are actually migrants from the Missouri River. Sauger migrate up the Missouri River and enter the Milk River in the early spring to spawn. FWP's data suggest that sauger numbers are relatively high right now, mainly due to several good water years in the Milk River. In addition, FWP has done genetic sampling of sauger to better understand the occurrence of hybridization with non-native walleye. To date, all the sauger tested in the lower Milk River and Missouri River downstream of Fort Peck Dam are pure sauger, with no indications of hybridization occurring.

The channel catfish populations of the lower Milk River look very healthy. While channel catfish continue to be very abundant in the lower Milk River, the high water years that have occurred over the past few years seem to have lead to very good growth. While the majority of the banks of the lower Milk River are privately owned, most landowners will allow an angler to fish on their property if permission is sought. This is a great

river to take a few kids with a tub of worms or chicken liver and catch a lot of great eating fish.

REGION 7

SOUTHEAST MONTANA

Yellowstone River – Caleb Bollman

Yellowstone River Paddlefish



Young Paddlefish Angler

Each spring paddlefish migrate upstream out of the headwaters of Lake Sakakawea with rising river discharge to reach river spawning grounds. A steadily rising hydrograph in the Lower Yellowstone made fish available from the beginning of the season (May 15th) and harvest increased with river discharge until the harvest cap was reached on May 31, 2013. Fisherman focused on sites near the Missouri River confluence (Sidney Bridge and Richland Park) early in the season until river discharge exceeded 40,000 cubic feet per second (CFS) bringing paddlefish up to Intake Fishing Access Site (FAS). Fish, Wildlife & Parks (FWP) staff tagged 684 paddlefish with jaw tags in 2013 during catch-and-

release fishing. Paddlefish season ended June 10, 2013. Monitoring the number of tagged paddlefish that are harvested during the season is critical for estimating harvest and ensuring that the fishery is managed sustainably.

Fall trend surveys on Lake Sakakawea found few young of the year in spite of perceived favorable conditions in 2013. On a positive note trend surveys continue to show abundant sub-adult paddlefish rearing in the headwaters. It will likely be another eight years before they reach sexual maturity, begin to make spawning runs, and become available to anglers. The 1995 year class continues to account for the majority of harvest. Further restriction of harvest will be necessary if spawning efforts do not provide young fish that will ensure the continuation of the population after the 1995 stock has been exhausted.



Catch and release at Intake Fishing Access Site

Other Yellowstone River Fishing Opportunities

The Lower Yellowstone continues to provide exceptional angling opportunity for a variety of warm-water fish. Anglers can target game species including channel catfish, sauger, bass, and northern pike.

Additional opportunity exist angling for goldeye, freshwater drum, and suckers or bow fishing for carp and buffalo. The natural hydrograph of the Yellowstone River influences when individual species are catchable but there is good opportunity for the diversified angler throughout the open water season. After ice out in the spring (March) and before high water (June) from

mountain snow melt anglers target walleye, sauger, and smallmouth bass. Water clarity determines the duration of the spring fishing window for these sight feeding species. Sauger



Young Angler with Shovelnose Sturgeon

are more abundant downstream of the mouth of the Powder River but average size of individuals increases as you go upstream. The Yellowstone offers trophy potential for walleye with 10+ pound fish sampled annually in the reach of river from Miles City to Hysham. Smallmouth bass are most abundant in the less turbid reach of river upstream of the Tongue River and 2013 fall trends found a historically high abundance of bass in the Hysham area, a result of ideal spawning and rearing conditions for this species during the 2012 drought. May is an excellent month to target pre spawn shovelnose sturgeon and on May 15th the Lower Yellowstone River paddlefish season kicks off. Consider a family camping/fishing trip to one of the Yellowstone River fishing access sites or wildlife management areas to catch numbers of catfish and shovelnose and participate in the paddlefish season. During the high water months of June and July channel catfish and goldeye pick up the slack. Being less dependent on water clarity to sight feed channel catfish can be targeted with success almost anytime during the open water season. Channel catfish are the most abundant sport fish encountered in the Yellowstone River where 6 to 8 pound fish are common and 10 to 15 pound fish are observed in surveys annually. Worms, shrimp, and minnows can be used to catch smaller catfish while larger fish are best targeted using large chunks of fresh cut bait (goldeye, white sucker, and shorthead

redhorse sucker). Goldeye will bite on live bait, soft plastics, and lures and can be entertaining using ultra light tackle or fly-fishing gear. Beginning in August anglers can again be found casting crankbaits, jigging, and trolling for sauger, walleye, and smallmouth bass. Depending on water clarity the fall fishing window can extend until ice up usually occurring sometime in November. Late fall can be an excellent time for the serious fisherman targeting sauger and walleye. Consider using block management and fishing access guides to plan a cast and blast trip to region 7 on the Lower Yellowstone River.



Fishing Lower Yellowstone at Sunset



Tongue River Upstream of Reservoir Near the Wyoming Boarder

Tongue River Reservoir

Trend surveys in 2012 and 2013 indicate that crappie catch rates are at or above historical average at Tongue River Reservoir. Several strong year classes of crappie that were identified in surveys last fall as 5 to 8 inch fish were observed this fall as 7 to 10 inch fish. Having

recruited to catchable size these year classes became available to anglers during open water and are being caught through the early ice. Walleye abundance has steadily increased since 2009 and fishing conditions continue to satisfy anglers.



Tongue River Reservoir Smallmouth Bass

Reports of quality fishing for bass in both size and catch rates was common throughout the 2013 season. Tailrace trout fishing in the Tongue River below the dam offers quality fishing for rainbow and brown trout.



Tongue River Reservoir White Crappie

Expect fishing in 2014 to bring better crappie fishing and similar walleye fishing to the 2013 season. An angler fishing from the bank or in a boat is likely to catch a mixed bag as Tongue River Reservoir supports populations of black crappie, white crappie, walleye, smallmouth bass,

largemouth bass, northern pike, channel catfish, pumpkinseed sunfish, and yellow perch.

Southeastern Montana Ponds



South Sandstone Kids' Fishing Day

Of the 100+ ponds managed for fish in region 7's pond program most are privately owned. In exchange for fish stocking and management landowners allow public access. Ponds are stocked with a variety of fish including bass, catfish, perch, and trout. About one third of the ponds in the program are sampled each year and survey results are summarized in the Region 7 Pond Fishing Guide. The Pond Fishing Guide is updated annually and available free to the public by stopping by the Miles City office or by calling 406-234-0900. The pond guide provides maps of the ponds in the program arranged by county. Ownership and fishery information is also provided in the booklet, including private landowner names and survey results.



Missouri River Breaks Trout Pond

Use the pond guide or call the Miles City office to get updated information on ponds that have recently experienced fish kills, or are reportedly fishing well. As with all private lands, permission is granted through the landowner and must be obtained each and every time before fishing. It is the responsibility of the fisherman to look up the landowner's phone number and request permission to fish.

Ice and open water anglers currently have ample angling opportunity because of stocking efforts from the Miles City hatchery crews planting bass and rainbow trout throughout the region. Rainbow trout from some 2011 stockings have already reached three and four pounds and bass stockings should be one to two pounds and plentiful for the 2014 season.

AQUATIC INVASIVE SPECIES PROGRAM

AIS Overview – Linnaea Schroeer



Watercraft Inspection Crew

As the Montana FWP Aquatic Invasive Species (AIS) Program moves into its second decade and its fourth season operating mandatory watercraft inspections, several things have become apparent. First, public awareness of the threats posed by AIS is increasingly widespread. From the Inspect, Clean, and Dry ad campaign (featured on billboards, boat ramp signage, in newspapers, and in other print materials), to radio and TV spots, presentations at schools, angler groups, outdoor shows, etc., and the outreach provided by watercraft inspectors at boat check stations, it is rare to come across an angler or boater who has not heard the message about AIS.

However, while awareness is very high, behavior does not appear to be changing accordingly. Many anglers and boaters who report that they are aware of AIS issues have not taken sufficient precautions to ensure that their boat or fishing equipment is not in danger of spreading AIS, such as neglecting to pull the plug between waterbodies in order to drain standing water. In the 2013 field season watercraft inspectors intercepted over 500 fouled boats, including 11 with Dreissenid mussels (zebra and quagga mussels), 38 with Eurasian watermilfoil (EWM), 369 with some other type of vegetation (including



Drain Standing Water

invasive curlyleaf pondweed), 4 with illegal fish, 7 with illegal bait, 11 with marine organisms, and at least 79 with standing water. AIS Program staff are exploring options to improve outreach and education materials and efforts to address this issue, as well as working closely with FWP wardens to increase law enforcement presence and response.

While the numbers of fouled boats may be alarming, one point that is very encouraging is the high level of support that this program receives from the public, special-interest groups, and the legislature. With such strong backing of the program the AIS Program is confident that FWP, along with our partner agencies of Dept of Natural Resources and Conservation, Dept. of Agriculture, and Dept of Transportation will continue to make strides towards preventing and minimizing the impacts of AIS.

Early Detection and Monitoring of AIS continues to be conducted throughout the state at 138 different waterbodies and 318 separate sites. Montana

FWP also inspects all state, federal, and private hatcheries for AIS. In 2013, the only new populations of AIS that were found during



Inspecting a Load of Commercially Hauled Boats

monitoring efforts were curly-leaf pondweed and New Zealand mudsnails in Quake Lake, and New Zealand mudsnails in Bluewater Creek. These discoveries were not a surprise due to their close proximity to existing AIS populations. An additional 13 waterbodies were selected for invasive aquatic plant surveys. No new locations of EWM, curlyleaf pondweed, or flowering rush were detected during these targeted surveys. Please contact Stacy Schmidt (sschmidt@mt.gov) for a complete listing of 2013 monitoring locations and observed AIS.

And finally, kudos to the FWP Veliger Laboratory, which continues to be highly regarded by other states for its timeliness and accuracy. The lab has always processed plankton samples from Missouri River Basin States including Montana's samples, and in 2013 it began processing samples for New Mexico and Colorado as well. Last year the lab processed over 1100 samples with an average turn-around time of two weeks. The lab discovered new populations of *Dreissena spp.* and *Corbicula sp.* (Asian clam) veligers for multiple downstream states in 2013, but none were found in Montana waters of either genus. The base funding for this lab is provided by the US Fish and Wildlife Service.

The AIS program would like to take the opportunity to thank boaters, anglers and recreationists in Montana for your continued support of this program, and your efforts to reduce the threats of AIS.

STATE HATCHERY LOCATIONS



STATE HATCHERY MAILING ADDRESSES

Big Spring Trout Hatchery

Route 1 Box 1670
Lewistown, MT 59457
(406) 538-5588

Bluewater Springs Trout Hatchery

PO Box 423
Bridger, MT 59014
(406) 668-7443

Flathead Lake Salmon /Rose Creek Hatchery

100 Spring Creek Road
Somers, MT 59932
(406) 857-3744

Fort Peck Hatchery

PO Box 167
Fort Peck, MT 59223
(406) 526-3689

Giant Springs Trout Hatchery

4801 Giant Springs Rd
Great Falls, MT 59405
(406) 452-5734

Jocko River Trout Hatchery

206 Hatchery Lane
Arlee, MT 59821
(406) 726-3344

Miles City Fish Hatchery

PO Box 756
Miles City, MT 59301
(406) 234-4753

Murray Springs Trout Hatchery

5435 Sophie Lake Road
Eureka, MT 59917
(406) 889-3489

Sekokini Springs Fish Hatchery Research Facility

490 North Meridian Rd
Kalispell, MT 59901
(406) 871-4519

Washoe Park Trout Hatchery

600 W Pennsylvania St
Anaconda, MT 59711
(406) 563-2531

Yellowstone River Trout Hatchery

PO Box 508
Big Timber, MT 59011
(406) 932-4434

MURRAY SPRINGS TROUT HATCHERY

Christina James, Culturist

The Murray Springs Trout Hatchery was built by the US Army Corps of Engineers in 1978 to mitigate the fishery losses that occurred when Libby Dam was constructed. The facility is owned and funded by the Corps but operated by Montana Fish, Wildlife & Parks in a cooperative effort.



Murray Springs Trout Hatchery

In 2013, the Murray Springs Trout Hatchery raised Redband Rainbow Trout, Gerrard Rainbow Trout, Eagle Lake Rainbow Trout and Westslope Cutthroat Trout. This was the final year that Eagle Lake Rainbow trout will be raised at the Murray Springs Hatchery. During 2013 the fish raised at Murray Springs were stocked into water bodies located in Region 1 and Region 4. The number of trout stocked out this year was: 61,967 Westslope Cutthroat; 22,916 Redband Rainbow; 1,412 Gerrard Rainbow; 38,508 Eagle Lake Rainbow. We stocked a variety of lakes using trucks, hiking in with buckets or backpacks, and we also used a helicopter to stock two inch fish into several high mountain lakes.

We stocked fish into 8 urban ponds. At one of these ponds fifth graders from the Flathead Valley assisted with the fish stocking as part of the Hooked on Fishing Program. We also assisted with the Hooked on Fishing program at other events in Eureka and Troy, Montana. The staff participated in various public outreach events at the hatchery providing multiple school tours, and

performing a fish dissection lesson to the fifth grade students from the local Eureka school.

Currently Murray Springs has two different brood stocks on station. In the summer of 2013, the Gerrard Rainbow trout brood stock was brought to the hatchery. Historically this strain of rainbow trout was reared at the Kootenay Hatchery in Wardner, BC. These fish are very important to the Lake Koocanusa Fishery, and this brood stock is the only one of its kind anywhere in the world. 2014 will begin with our first ever spawning of the new Gerrard brood stock.

The other brood stock is the Redband Rainbow Trout; these fish are the only rainbow trout native to Montana. Over the last few years the staff at Murray Springs has been working with other FWP employees at the Libby Field Station to spawn wild fish and transport the eggs to the hatchery to establish the Redband Brood Stock. We are pleased to say that this year was the first year that we were able to take eggs from our Redband Brood Stock and incorporate them with the wild eggs for future brood fish. With the assistance of the Libby crew we are working on restoring this fish back in to its historic range.

FLATHEAD LAKE SALMON HATCHERY & ROSE CREEK SATELLITE FACILITY

Mark Kornick, Manager

Montana Fish, Wildlife & Parks Hatcheries not unlike for-profit businesses, benefit from good record keeping. Some of the records we keep of course are procedural in nature--tracking costs to balance the books to responsibly follow budgets. Other records are feed use in pounds, fish growth in pounds, and population size. This information can be useful to establish standard methods and techniques to meet stocking requests from regional fisheries managers. For example, the feed and hatchery space required for 400,000 three inch kokanee requested for July 2014 from eggs available in November of 2013 can be accurately predicted by utilizing data from good records.



Rose Creek Hatchery Incubating Kokanee Eggs

Good record keeping reveals that every group of fish can be a case study, and data analysis can result in some remarkable findings too. While analyzing the feed efficiency, known as feed conversion, in some kokanee this past year, we noticed what appears to be a statistically significant jump in feed conversion from a group of fish that had had the benefit of some experimental overhead cover. The covers were placed in the hopes that it would reduce the stress response that visitors and hatchery workers can elicit simply by walking by the troughs.



Rose Creek Hatchery Troughs

The feed amounts versus weights of stocked fish from the covered troughs showed a better conversion of fish feed to body mass than similarly fed, uncovered fish! Without good records, that correlation would not be possible. I will try to reproduce that result in 2014 to the benefit of the fish and Montana salmon fishing.



Movement by hatchery visitors can elicit a stress response in uncovered raceways and troughs. The fish will "ball up" in corners looking for refuge from the perceived threat.

My records for 2013 indicate that FLSH staff stocked 1.7 million salmon, 134,000 Westslope Cutthroat Trout, 60,000 Ashley Lake hybrids, and 110,000 Arctic grayling in 2013. The hatchery also provided 800,000 kokanee eggs to 2 western states. Total egg numbers spawned from Lake Mary Ronan kokanee exceeded 3.5 million. The staff of 2 full time employees oversees two hatcheries in the Kalispell area and provides educational tours to interested groups.

JOCKO RIVER TROUT HATCHERY

Stephanie Espinoza, Culturist

It's been another successful and busy year here at the Jocko River Trout Hatchery (JRTH). Being both a brood and production facility we have our hands full year round. We have 3 full time employees that live on-site and 1 intern during the spawning season. We just finished up spawning season at the end of December and are now in rearing mode caring for over 400,000 Arlee Rainbows to stock in the spring.

In 1947 the State of Montana purchased the JRTH from a private hatchery owner. In 1955 the "Arlee" strain of Rainbow Trout was established by crossing the present Donaldson strain with the Missouri strain that originated from the McLeod strain native to California. The result was a trout that was a voracious feeder and very hardy.

Anglers covet these traits that make the Arlee Rainbow so catchable and fun to reel in. Fisheries managers like the Arlee Rainbow because they grow fast and are able to be stocked into waters quickly and efficiently.

Spawning season here begins about the second week of October (depending on water temperature and the relative length of days to nights) and ends the last week in December. We have six to seven egg takes per year. In the previous five years the winter weather has been extremely kind to us but this year we weren't so fortunate. During the week of Dec. 3rd we were spawning in below zero temps. It was an endeavor to stay warm besides having equipment failing to operate, frozen hoses and doors and struggling to keep milt from freezing. When 48.9°F hatchery water seems like warm bath water you know it is cold.

We sort the females for "ripeness" every other Monday and then spawn the ripe females the following Wednesday, being ripe means that the eggs inside the female's body cavity have released from the ovary wall and are now ready to flow out with gentle pressure. We begin the spawning season with approximately 800 three year old females and 400 four year old females.

On average this year our four year old females were 11.5 lbs and the three year olds were about 5.7 lbs. Our largest fish weighed this year was 17.3 lbs. To maintain genetic integrity we cross 4 year old females with 3 year old males and 3 year old females with 2 year old males. This prevents any sibling crossing. The morning of spawning we will go out and collect the milt from the males first thing. This is done by one person wrestling the male fish into submission and applying pressure to the gonads while another person collects the milt in a test tube to be used later. During spawning season we have many high schools from Arlee and Missoula come for tours and we offer them the once-in-a-lifetime opportunity to take milt from a male during their tour to get some hands-on experience. This is always very entertaining. We highly value the educational facet of our program.

We have hundreds of students ranging from pre-school to college age come through our hatchery for tours. It's great to see young people so



Sunrise reflected off brood raceways at Jocko River Trout Hatchery

for tours. It's great to see young people so engaged and interested in what we do as a hatchery and as part of the larger role in FWP's objectives in managing and maintaining state fisheries.



Angler with adipose fin clip Arlee Rainbow at Browns Lake

JRTH plays a vital role in the Montana hatchery system and fisheries management. This year we produced over 6 million eggs. The majority of them are used in state production facilities where they are hatched, reared and stocked into state managed waters all over Montana. We keep about 400,000 for our own production needs. We stock 43 water bodies in Region 1 and Region 2. This year, in continuation with an ongoing study, we planted 20,000 fish with an adipose fin (the small fleshy fin behind the dorsal fin) clip into Brown's Lake near Ovando. New to the stocking program this year will be Loon Lake and Troy's Kid's Pond.

Another part of our hatchery agenda is our pressure induced triploidy program. Paying close attention to water temperature and timing after fertilization we put the eggs under pressure of 9500 psi which creates fish that have 3 chromosomes instead of the normal 2 and in result renders the fish sterile. Over the past eight years we have been doing this procedure and we have had 100% sterile fish in all of our tests. This is a great tool for fisheries management because it allows us to plant fish in sensitive areas without concern of hybridization with other fish species. This year we produced 125,000 triploid fish for our stocking program.

We are now at full capacity here at the hatchery and will be busy caring for these Arlees for planting which begins the middle of March. We will be hauling them through June and then again in the fall when water temps cool down. Hope to see you all out there and happy fishing!

WASHOE PARK TROUT HATCHERY

Angela Smith, Manager

Washoe Park Trout Hatchery in Anaconda, Montana is home to the state's only captive Broodstock of Westslope Cutthroat Trout.

The Broodstock's genetics are meticulously maintained in order to conserve the wild attributes of this critical native species. This genetic maintenance is a tall order, one that requires periodic infusion of genetics from wild populations of pure Westslope Cutthroat across Western



Washoe Park Trout Hatchery

Montana. Previous infusions took place in 2003, 2004, 2005 and 2009. In all of those years, fish were taken exclusively from tributaries of the South Fork of the Flathead River. 2013 was the first year Washoe Park Trout Hatchery used fish from the Clarkfork and Bitterroot drainages for our wild fish infusion. This is significant because the brood will now boast genetic attributes from even more various type of habitats. We hope that this broadened genetic makeup will improve our cutthroat's ability to thrive in the varied locations in which they are stocked across their historical range.



Washoe Team Loading the Hatchery Truck

The hatchery staff, along with the help of FWP fisheries biologists and technicians, captured 75 males each from 3 Mile Creek near Hamilton, MT and Lower Willow Creek near Hall, MT and brought them back to the hatchery. Over the course of two weeks, we crossed the wild males

with our captive females to achieve a 10% infusion of wild genetics into our future Broodstock. In addition to the wild infusions, we shipped 1.1 million eggs to other hatcheries for production and retained 460,000 to meet our own production and brood replacement goals.

Our 2013 production component went very well this year. We stocked roughly 75,000 fry (less than or equal to 2 inches), 135,000 fingerlings (~6 inches), 8,000 catchables (~10 inches) and 2,600 retired brood (≥ 15 inches). All total, 12,000 lbs of fish went into Western Montana's lakes and reservoirs. The majority of the stocking was achieved using our hatchery trucks equipped with water tanks, but we also stocked 15 high altitude lakes in the Madison and Big Belt mountain ranges by helicopter. For interested parties, our stocking reports from past years can be found on Montana Fish, Wildlife & Parks website: www.fwp.mt.gov under the fishing tab.

The staff at Washoe Park Trout Hatchery also organized and participated in many community outreach programs in 2013. We continued our Hooked on Fishing program, which brings us together with nearly 100 local fourth graders periodically throughout the school year to learn about fish, fishing and conservation. Some of our lessons included fly-tying, fish identification and a field trip to the Montana Wild Center in Helena. We also hosted multiple fishing days for kids, the elderly and the disabled at Georgetown Lake and the fishing pond near Warm Springs.

These events provide local people with an opportunity to enjoy one of Montana's most enjoyable traditions, even if they are unable to do so independently. The biggest of these events is always the kids fishing day, which garners financial support and sponsorship from local businesses, as well as a huge effort from the Anaconda Kiwanis club, this event served many local kids and folks with disabilities. This year's kids fishing day will be held at the Warm Springs fishing pond on highway 48 on June 14th.

Washoe Park Trout Hatchery is open to the public seven days a week and people are encouraged to come in and enjoy our educational visitor's center, our simulated native stream and feed our trophy-

sized fish in the display pond. If you have a group that is interested in a guided tour, or just have a



Angela Smith Leading A Classroom Tour

that is interested in a guided tour, or just have a question for us, please call the hatchery at (406)563-2531. Don't forget your nickels for the feed machine!

GIANT SPRINGS TROUT HATCHERY

Charlie Bridgham, Manager

As with any hatchery, there are challenges that seem daunting or nearly impossible to overcome. One reoccurring challenge is the control of Bacterial Coldwater Disease. In 2013, hatchery personnel looked at various approaches to control or minimize the effects of Coldwater Disease through different culturing techniques, while some changes look very promising, others had less than desirable results. Also, working in conjunction with Regional Fish Biologists, the hatchery is looking at ways to improve post-stocking survival.

With the renovations completed at Big Springs State Hatchery and the hatchery in full production again, Giant Springs returned to its' normal production. The hatchery currently raises three different strains of Rainbow Trout and Brook Trout. Production numbers for both fingerlings and catchables in 2013 were 598,377 fish totaling 79,787 lbs. being stocked in 50 different locations covering Central Montana from Dailey Lake (south of Livingston) to Parsell Pond (along the Canadian

border) and as far east as Brookie Pond (north of Zurich) and west to Browns Lake (near Ovando). As with any organization, changes are always occurring as direction of programs evolve. Starting this year, we have taken over a limited amount of production for another hatchery, as its' program has changed, and will be heading to the Northwestern corner of the state to stock fish. Overall, the hatchery covers a large area in a very large state with a lot of windshield time while making planting runs.



Fish Planting Trip along the Rocky Mountain Front

In closing, one of the benefits working for the hatchery is the amazing scenery that you get to see while making fish plants. One is truly blessed to have the opportunity to see the natural beauty that Montana has to offer, especially along the Rocky Mountain Front.

BIG SPRINGS TROUT HATCHERY

Sam Stafslie, Culturist

The Big Springs Trout Hatchery was able to get back to full production and utilize the 40 raceways at the upper unit and the 36 outside raceways at the lower unit. The hatchery raises 5 different strains of rainbow trout, brown trout, kokanee salmon, and Chinook salmon which are stocked throughout the state. The hatchery produced 1,556,010 fish which had a total weight of 170,749 pounds.

Big Springs stocked out 587,202 rainbow trout, 256,587 kokanee salmon, 107,000 brown trout, and 27,010 Chinook salmon fingerlings (2-7") into various ponds and reservoirs throughout the state.

The hatchery also produced 568,886 rainbow trout to the catchable size (7-12") which were stocked in urban fishing locations along with reservoirs such as Holter lake and Canyon Ferry. The hatchery also stocked 4,579 rainbow trout to the broodstock size (12"+), mainly in urban fishing sites.



Hatchery Sign Discouraging Potential Contact With Aquatic Invasive Species From Waders And Fishing Equipment

Aquatic diseases along with AIS (Aquatic Invasive Species) are an ever present danger to the fish and to the hatchery. Strict bio-security measures can be observed while visiting. Structures and signs such as tall fences with bird netting at the lower unit to signs in the door windows stating "Authorized Personnel Only" or "Absolutely No Waders or Fishing Equipment On Hatchery Grounds" are meant to help protect the hatchery. Fencing at the lower and upper unit protects fish in many different ways such as predators both terrestrial and avian alike. Additionally, providing safety to the public to ensure no one is injured near the raceways, and also to make sure that someone who was in a stream or lake that could be contaminated with an aquatic invasive or disease might accidentally or unknowingly release the contaminate into the raceway. If this would happen it could cause the hatchery to shut down and possibly kill off the entire population of fish to prevent any spreading of the disease or aquatic invasive to different bodies of water.

While visiting Big Springs, if you see a worker and would like a tour or to look around inside, please feel free to ask and they will be glad to show you

around if possible, and explain the different functions of the hatchery.



Protective Netting At Big Springs Hatchery To Minimize Fish Predation By Birds

YELLOWSTONE RIVER TROUT HATCHERY

Chris Philips, Culturist

2013 here at Yellowstone River Trout Hatchery was another productive and dynamic year. Spawning of the Goose Lake-Yellowstone Cutthroat brood began in February. The spawning season went well this year. We had a total of 9 egg takes and finished up in early April. The broodstock produced just over 734,000 green eggs with an average eye-up of 70%. We decided to try an experiment this year with the brood. We VI-Tagged our 3 yr-old holdover females with the intent to determine the "spawning time" of individual fish from one year to the next. Tag retention is proving to be a challenge, so hopefully we can determine some results during the 2014 spawning season.

In Early May, for the fourth consecutive year, we were on the Big Hole River with Emma Cayer and Austin McCullough to spawn grayling. This year's capture and spawn effort has been the best yet. Emma and Austin pre-collected 85 fish which they held in live cars and the following day, we traveled to the river site to spawn. We spawned 12 females producing roughly 11,000 green eggs. These eggs were incubated in the isolation room in 5 separate family groups. From these eggs,

500 fish remain here at the hatchery and make up the brood recruitment lot for Axolotl Lake, which will be stocked in spring of 2014. The remaining fish were stocked in Kaufman Lake located in the Absaroka - Beartooth Mountains.

We also did our annual grayling spawn at Axolotl Lake during the third week of May. We had fair success with 134,000 eggs collected from 127 pairs. The Axolotl eggs were also incubated in the isolation room here at the hatchery. 105,000 eyed eggs were transferred to Emma and Austin and placed into various remote streamside incubators located in tributaries of the Big Hole River. A majority of the remaining fish went into Kaufman Lake and 500 remain here at the hatchery as a second back-up brood lot to Axolotl Lake.

On May 20th, Chris again assisted in spawning Arctic Grayling in Red Rock Creek within the Red Rocks Wildlife Refuge. This is a cooperative effort between FWP and the USFWS. It was another successful year with a total of 31 family contributions spawned. A majority of the eggs were placed in remote streamside incubators (RSI'S) in Spring Creek and Elk Lake Creek. Another 1,800 eggs, representing all family groups, were placed into RSI's in Red Rock Creek.



Stocking Lake Ovis in the Absaroka - Beartooth Mountains

Our high mountain lake stocking via helicopter took place in late July. 23 lakes located within the Absaroka - Beartooth and Crazy Mountains were planted with 49,700 Yellowstone Cutthroat. We also stocked Yellowstone Cutthroat into Sage Creek for the fourth year as restoration efforts continue. Other Yellowstone Cutthroat Trout fish plants conducted this year include: Hyalite

Reservoir, Daily Lake, Laurel Pond, and Lake Elmo.

Two 4-wheeler fish plants took place this year as well. The first was in South Picket Pin Lake in the Stillwater drainage and the second was Blue Lake located in the Boulder River drainage. On a final note, an interesting project we completed late in the year was experimenting with and installing new oxygen diffusers in the 8-section helicopter fish tank. Thus far, our tests show remarkable differences in oxygen levels, which should provide a more comfortable condition for fish during high elevation transport!

BLUEWATER SPRINGS TROUT HATCHERY

Dave Robertson, Manager

At Bluewater Hatchery, the big news for 2013 was the initiation of a construction project to capture Tillet Springs. This additional water source will help improve water quality and volume available to the hatchery building, helping alleviate the



Entrance Sign for Bluewater Springs Trout Hatchery

production bottleneck we have there. The contractor has covered the spring with a concrete vault and laid pipe through two aeration structures and into the existing hatchery building.

This year, Bluewater continued to provide fish for approximately 50 waters scattered throughout the



New Cap Construction to capture Tillet Springs

southern portions of the state. The hatchery raises three different strains of rainbow trout including Arlee, Eagle Lake and Harrison Lake. These fish are stocked into reservoirs to maintain sport and urban fisheries. Bluewater again raised Yellowstone Cutthroat Trout in 2013 for sport fisheries and for native fish re-introductions. The hatchery also over-winters the Large and Smallmouth Bass broodstocks which arrive from the Miles City Fish Hatchery in September. Bass are maintained with rainbow trout forage throughout the winter until they are returned to Miles City Hatchery in April.



Blue Lake located in the Boulder River Drainage

In 2013 Bluewater hatchery stocked 829,132 fish weighing 45,685 pounds and drove a total of 19,583 miles to deliver these fish to waters located in regions 2,3,4,5 and 7. Some of the major waters include: Georgetown Lake, Hebgen Lake, Clark Canyon, Canyon Ferry and Cooney Reservoirs. Approximately 230,217 fish weighing 1,796 pounds were produced to supply fish for bass forage. The hatchery supplied Yellowstone Cutthroat for a fourth year for Sage Creek located in the Prior Mountains south of Billings to aid in restoring this native fishery.

In 2013, the hatchery continued to host several school tours. However, the Carbon County Conservation Day event normally held at the hatchery had to be cancelled this year due to inclement weather and dangerous road conditions.

Please feel free to stop by and visit the Bluewater Fish Hatchery. The hatchery is open to the public from 8:00-5:00 seven days a week.



The Hatchery Over-winters Large And Smallmouth Bass



Moving Rainbow fry to outside raceways

FORT PECK FISH HATCHERY

Wade Geraets, Manager

The Fort Peck Multi-Species Fish Hatchery (FPFH) was built by the Army Corp of Engineers, and the facility is operated by Montana Fish, Wildlife & Parks (FWP). The hatchery went into production in January of 2006. Encompassing 100 acres of land, the hatchery is comprised of a 35,000 sq. ft. rearing/office building, 40 ponds totaling 45 surface acres, and eight 80 ft. raceways. The primary function of the FPFH is to provide fish for sport fishing and recreational opportunities to anglers in Northeastern Montana. Species raised at the FPFH include: walleye, northern pike, chinook salmon, and rainbow trout.

The primary species raised at FPFH is walleye. Our annual management request is for 100 million eggs. The spawning of walleye is done remotely by the Region 6 Fort Peck Lake Biologist, his staff, the FPFH staff, and many volunteers. Numbers of eggs collected is dependent on weather with some years exceeding the request and others falling short. In 2013, we collected a total of 39,257,375 eggs from Fort Peck Reservoir. 19,863,000 of these eggs were shipped to the Miles City State Fish Hatchery (MCSFH) for staff there to be raised. The remaining 19,394,375 eggs were brought and raised at the FPFH. After incubation, walleyes are either stocked as fry (3-5 days old), 1 -2 inch fingerlings (approx. 30 days old), or as advanced fingerlings (>60 days). In 2013, FPFH stocked 3,580,740 fry, 1,263,442

fingerlings, and 9,943 advanced fingerlings into waters across Montana.

FPFH is also responsible for the production of triploid walleye for the state of Montana. Triploid walleye are fish that are incapable of producing live eggs or milt. The triploid walleye are produced and raised to be stocked into waters where sauger populations are known to exist, and biologists do not want the two species to hybridize. In 2013, FPFH produced and raised 68,502 triploid walleye fingerlings weighing a total of 229 lbs that were stocked into Big Horn/Yellowtail Reservoir.

The FPFH is also the source for the state's northern pike production. As a supplement to our walleye egg taking activities on Fort Peck Reservoir, northern pike eggs are also collected for production purposes. Production goals vary year to year based on management goals and objectives. Due to these goals and objectives, northern pike production has been moved to every other year, with us starting production back up in the spring of 2014.



School Tour at Fort Peck Hatchery

FPFH is the only instate source of chinook salmon eggs. Production goals are for 200,000 spring release fingerlings from FPFH, and the Big Springs Trout Hatchery (BSTH) is responsible for the raising of 50,000 spring or fall released salmon. In the spring of 2013, FPFH released 124,534 spring release chinook salmon into Fort Peck Reservoir. During the fall of 2013, the FPFH staff along with the Region 6 Fort Peck lake biologist and his staff collected 155,000 plus eggs. 160,000 plus eyed eggs from North Dakota were

received for the FPFH, and an additional 79,000 eyed eggs from North Dakota were received by BSTH to help meet 2014 management objectives.

FPFH continues to raise rainbow trout for area ponds in Region 6, helicopter plants in Region 7, and as forage base for large and small mouth bass at the MCSFH. Production numbers will vary from year to year depending on management objectives. In 2013, FPFH stocked 96,595 fingerlings, 17,090 catchable rainbow trout in Region 6 ponds, 99,000 fingerlings for helicopter planted fish and a supply of forage fish for MCSFH. In 2013, FPFH stocked a total of 5,503,337 fish weighing a total of 11,474 pounds of three different fish species: walleye, chinook salmon and rainbow trout into 56 state waters.

Our normal hours for our visitor's center are 7:00 am to 4:00 pm Monday thru Friday, and 8:00 am to 5:00 pm Saturday, Sunday and Holiday's. Tours are mostly given by appointment by calling 526-3689, and we ask for usually one to two days advance notice.



Savannah Jo Hoists Her Bass From Upsata Lake, Stocked by Miles City Fish Hatchery

MILES CITY FISH HATCHERY

Mike Rhodes, Manager

Production of warm and cool water fish is the primary goal of the MCSFH. These fish are distributed throughout the entire state.

The production of largemouth and smallmouth bass was very successful this year. Due to excess spring snow and rain run-off, all the regional request for LMB and SMB were met with 246,941 LMB and 165,184 SMB being planted across the state.



One Day Old Tiger Muskie Fry And Soon To Hatch Eggs

A total of 20,267 tiger musky eggs were received from Utah. Egg quality and hatching rates were extremely poor. A total of 307 were planted into 2 different waters. Some of these fish are already in excess of 13 inches long.



6 month old Tiger Muskie

Rainbow trout were distributed in Region 7 by use of the FWP helicopter. Forty nine plants were made this year totaling 67,750 fish.

A total 39,257,375 walleye eggs were collected this year from Fort Peck Res. MCFH received 19,863,000 of those eggs. From those eggs 6,400,000 fry, 1,669,647 fingerlings, and 5000 advanced fingerlings were produced. All walleye fingerling commitments for this hatchery were met this year

This spring Region 5 biologist with the help and cooperation of the Wyoming Fish and Game collected 2,048,000 eggs from the Bighorn River in Wyoming. These eggs were brought to MCFH where they were incubated and hatched. Fry were put in outside rearing ponds where survival was fair. A total of 122,000 fingerlings were produced and planted into Bighorn Res.

Pallid Sturgeon were once again produced at MCSFH. One female was collected in the upper Missouri, and one male was collected in the lower Yellowstone. In order to get enough genetic diversity, cryo preserved sperm from the Garrison Dam NFH was used to create multiple crosses with this lone female. All hatcheries involved with this program had trouble with fry survival. But, production goals were met.

MCFH produced a total of 8,675,649 fish totaling 4007 lbs. This consists of 7 different species that were planted into 89 different waters. Numerous tours were given throughout the year to school groups, 4-H clubs, FWP support staff, etc.



Cory Hagemeister explains bass culture to FWP support staff

MONTANA FISH RECORDS

FISH	LENGTH (inches)	WEIGHT	GIRTH (inches)	SITE	ANGLER	DATE
Arctic Grayling	20	3.63 lbs.	11.7	Washtub Lake	Glenn Owens	6/28/03
Bigmouth Buffalo	40.7	57.75 lbs.	32.5	Nelson Reservoir	Craig D. Grassel	6/4/94
Black Bullhead	14.37	2.60 lbs.	11.5	Smiley Slough	Birrell White	6/20/09
Black Crappie	16.7	3.13 lbs.		Tongue River Reservoir	Al Elser	1973
Bluegill	11	2.64 lbs.	17	Peterson's Stock Dam	Brent Fladmo	6/3/83
Blue Sucker	29.75	11.46 lbs.	18.5	Yellowstone River Miles City	Doug Askin	10/7/89
Brook Trout		9.06 lbs.		Lower Two Medicine Lake	John R. Cook	1940
Brown Trout		29 lbs.		Wade Lake	E.H. "Peck" Bacon	1966
Bull Trout (Dolly Varden)	37	25.63 lbs.	25		James Hyer	1916
Burbot	39	17.08 lbs.	16.25	Missouri River Wolf Point	Jeff Eugene Iwen	4/18/89
Channel Catfish	41.75	34.8 lbs.	25	Fort Peck Reservoir	Dan Davenport	7/26/13
Chinook Salmon	38	31.13 lbs.	26.5	Fort Peck Reservoir Face of Dam	Carl L. Niles	10/2/91
Cisco	17.25	1.75 lbs.		Below Ft Peck Powerhouse	Curt Zimmerman	5/19/01
Coho Salmon	25.5	4.88 lbs.		Fort Peck Reservoir Face of Dam	Irven F. Stohl	5/29/73
Common Carp	38	40.2 lbs.	30.5	Nelson Reservoir	Jared S. Albus	5/24/98
Cutthroat Trout		16 lbs.		Red Eagle Lake	Wm. D. Sands	1955
Emerald Shiner	3.43	0.01 lbs.		Park Grove Bridge	Ike Braaten	6/9/06
Flathead Chub	11.2	0.59 lbs.		Thornton Pond	Douglas Jordan	4/29/01
Freshwater Drum	29.5	21.59 lbs.	26.5	Fort Peck – Ghost Coulee	Matt Washut	5/3/03
Golden Trout	23.5	5.43 lbs.	13	Cave Lake	Mike Malixi	7/16/00
Goldeye		3.18 lbs.		Nelson Reservoir	Don Nevriy	7/4/00
Green Sunfish	9.0	0.84 lbs.	9.87	Hickson's Pond	Bette Schmieding	5/25/09
Kokanee Salmon	26.8	7.85 lbs.		Hauser Lake	John Bomar	9/23/03
Lake Chub	3.9	.02 lbs.		Teton River	Joe Hagengruber	8/22/10
Lake Trout	42.5	42.69 lbs.	31.5	Flathead Lake	Ruth Barber	6/23/04
Lake Whitefish	27	10.46 lbs.		Flathead Lake	Swan McDonald V	8/26/06
Largemouth Bass	22.5	8.80 lbs.		Noxon Rapids Reservoir	Darin Williams	5/2/09
Largescale Sucker	23.1	6.16 lbs.	14.8	Woodland Pond	Kevin Fraley	6/27/08
Longnose Sucker		3.27 lbs.		Marias River Loma	Ray Quigley	5/8/88
Mottled Sculpin		0.05 lbs.		Belt Creek (North of Neihart MT)	Brad Sullivan	7/30/01
Mountain Sucker	6.2	1.60 oz.		Beaver Creek Reservoir	Robert Garwood	4/23/01

Updated 10/29/2013

FISH	LENGTH (Inches)	WEIGHT	GIRTH (Inches)	SITE	ANGLER	DATE
Mountain Whitefish	23	5.11 lbs.	12.5	Hauser Reservoir	Walt Goodman	10/10/07
Northern Pikeminnow	27.125	7.88 lbs.		Noxon Rapids Reservoir	Darrel Torgimson	5/28/91
Northern Pike		37.5 lbs.		Tongue River Reservoir	Lance Moyer	1972
Paddlefish	77	142.5 lbs.	41.75	Missouri River Near Kipp Park	Larry Branstetter	5/20/73
Pallid Sturgeon		60 lbs.	27.5	Yellowstone River Near Sidney	Gene Sattler	5/13/79
Peamouth	16.125	1.52 lbs.		Clark Fork River	Mike Jensen	7/29/07
Pumpkinseed	9.5	0.96 lbs.		Upper Thompson Lake	Nathan Bache	7/30/06
Pygmy Whitefish	9.84	0.36 lbs.	6.3	Little Bitterroot Lake	Richard Geldrich	2/13/10
Rainbow Trout	38.62	33.1 lbs.	27	Kootenai River David Thompson Brdg	Jack G. House, Jr.	8/11/97
Rainbow-Cutthroat Hybrid Trout	35.75	30.25 lbs.	27.5	Ashley Lake	Pat Kelley	5/16/82
Redside Shiner	6.5	0.10 lbs.	3.75	Lost Lake	Josh Ahles	8/21/01
River Carpsucker	24	6.95 lbs.	16.5	Fort Peck Reservoir	Brady Miller	8/15/08
Rock Bass	9.88	0.82 lbs.	8.75	Lower Crazy Head Springs Reservoir	Lance Dennis	5/14/10
Sauger	28.2	8.805 lbs.	15.1	Fort Peck Reservoir	Gene Moore	12/12/94
Saugeye		15.66 lbs.		Fort Peck Reservoir Squaw Creek	Myron Kibler	1/11/95
Shorthead Redhorse	20.25	4.68 lbs.		Marias River Near Loma	Ray Quigley	4/14/85
Shortnose Gar	35	7.41 lbs.		Fort Peck Dredge Cuts	Brandon Hansard	5/16/13
Shovelnose Sturgeon	39.75	14.125 lbs.		Missouri River	Chad Buck	5/21/10
Smallmouth Bass	22.5	6.7 lbs.	16.5	Fort Peck Reservoir	Melvin McDanold	8/30/13
Smallmouth Buffalo	38	38 lbs.	29.25	Nelson Reservoir	Brady Miller	4/28/07
Spottail Shiner	3.0	.02 lbs.		Tiber Reservoir	Joe Hagengruber	8/14/10
Stonecat	10	0.54 lbs.		Milk River	Dale Bjerga	6/16/96
Tiger Muskellunge	50	38.75 lbs.		Deadmans Basin Reservoir	Leo Cantin	9/2/12
Tiger Trout	20.6	4.04 lbs.	12	Bear Lake	Joe Sobczak	2/9/97
Utah Chub		1.81 lbs.		Canyon Ferry Reservoir	Eugene Bastian	2/5/92
Walleye	35	17.75 lbs.	22	Tiber Reservoir	Robert Hart	11/18/07
White Bass	17	2.80 lbs.	12	Missouri River South of Bainville	Vernon Pacovsky	10/13/07
White Crappie	18.5	3.68 lbs.		Tongue River	Gene Bassett	5/10/96
White Sturgeon	75	96 lbs.		Kootenai River	Herb Stout	1968
White Sucker	21.625	5.33 lbs.	12.75	Nelson Reservoir	Fred Perry	2/10/83
Yellow Bullhead	13.75	1.19 lbs.	7.75	Tongue River Reservoir	Jordan Van Haele	8/18/13
Yellow Perch	14.375	2.39 lbs.	12.1875	Lower Stillwater Lake	Josh Emmert	2/19/06

Updated 10/29/2013

Montana's Fish Records

<http://fwp.mt.gov/fishing/guide/records/>

Fishing Montana's waters is enjoyed by many, but only a few anglers catch a record fish. Montana Fish, Wildlife, & Parks recognizes these anglers.

I caught a record-breaker! What now?

- To prevent loss of weight, do not clean or freeze the fish. Keep the fish cool—preferably on ice.
- Take a picture of the fish.
- Weigh the fish on a certified scale (found in grocery or hardware stores, etc.), witnessed by an observer. Get an affidavit from the store if no FWP official is present. Measure the length.
- Contact the nearest [FWP office](#) to have the fish positively identified and to determine if it is a state record.
- Fill out the [Fish Record Form](#) and send it to:

Beth Giddings
Fisheries Bureau
(406) 444-7815
Montana Fish, Wildlife & Parks
PO Box 200701
Helena, MT 59620-0701



New Smallmouth Bass
Record Set in 2013



8 Year Old Justin Brewer & His Faithful Dog Fishing Lake Mary Ronan For The Next Montana Record Fish

FAS – WEST

Western District

Western Fishing District FAS Pictures



Flatiron Ridge - Clark Fork River near Thompson Falls



Pair-A-Dice FAS - Clark Fork River near Paradise



Tarkio East (Sandy Beach) in the Alberton Gorge



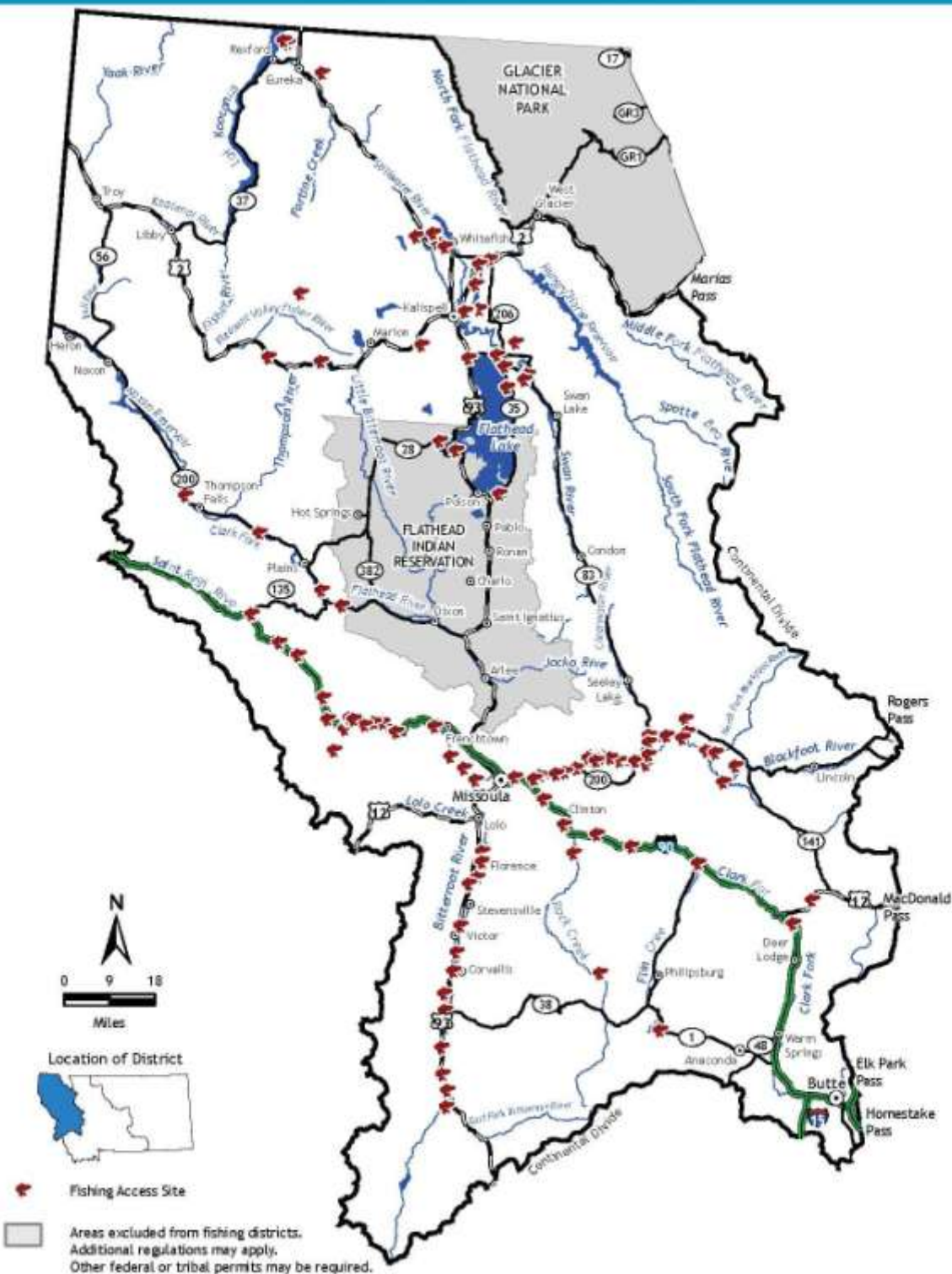
Hannon Memorial FAS - Bitterroot River south of Hamilton



Cyr Bridge FAS - west of Missoula

Western Fishing District

Western District



The Western Fishing District includes all waters in Montana west of the Continental Divide.

For additional information about fishing in this district, please call the following regional headquarters Monday-Friday 8:00 a.m. - 5:00 p.m.:

Kalispell 406-752-5501
Missoula 406-542-5500
TTY (Telephone Device for the Deaf)..... 406-444-1200

Region 2 FAS Coordinator – Rory Zarling



Weigh Station Fishing Access Site on Blackfoot River

Development at Weigh Station Fishing Access Site (FAS) on the Blackfoot River was completed in 2013. Improvements included a concrete boat launch, a concrete latrine, a new road system and parking lot. Prior to development, boat access was difficult as only a steeply sloped gravel launch was present. Weigh Station FAS, the last public boating access on the lower end of the Blackfoot River, now provides easier boating access for the public as the slope of the launch was lessened and is now constructed of concrete.

Fifty miles upstream, River Junction FAS will be renovated in early 2014. Additionally, just west of Missoula on the Clark Fork River, Kelly Island FAS off of Spurgin Road, will exhibit significant site improvements come fall of 2014 as a complete redo of the site is scheduled. Less extensive projects are planned for some of the Bitterroot River sites as well.

In addition to the previously mentioned improvement projects, the FAS program within the region will be concentrating on acquiring, developing and improving fishing access on the Upper Clark Fork River from its headwaters near Warm Springs, Montana downstream to just east of Clinton, Montana. FWP will be working jointly with Montana Department of Justice, Natural Resource Damage Program in providing better and more fishing access for Montana's anglers.

During the summer of 2013, the Fishing Access Site and River Recreation program conducted an



Self Registration Box on West Fork Bitterroot River

extensive study of recreational river-use on the Blackfoot River and on the West Fork of the Bitterroot River. Information was gathered by surveying river users in person as well as collecting information via self-registration boxes at key river access sites. The data are being reviewed and will be used in future planning for river recreation management efforts.

The successful new program of designated float-in campsites at existing fishing access sites along the Blackfoot River continued to be popular in 2013--the second year of the pilot program. The float-in campsites are available on a first-come, first-serve basis, and need to be scheduled in advance through a special use permit issued by the Region 2 FWP office in Missoula.

Optimistic planning efforts are in the works for adding additional float-in sites on the Blackfoot River in 2014.

FAS – CENTRAL

Central Fishing District FAS Pictures



Dearborn FAS - Missouri River



Whitebird FAS - Stillwater River

Central District



Bighorn FAS - Bighorn River



Cottonwood Grove FAS - Missouri River

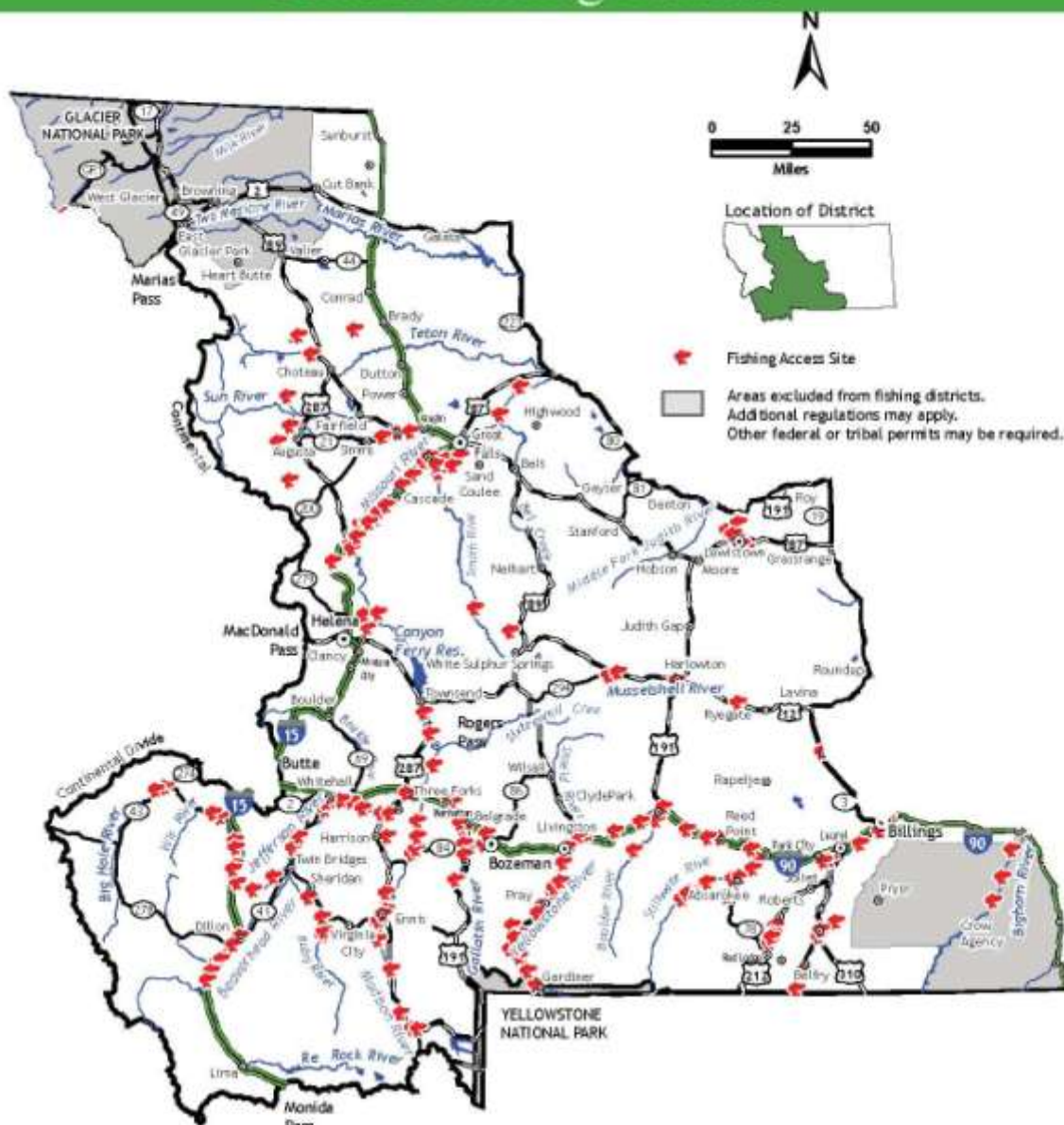


Henneberry FAS - Beaverhead River



Devils Kitchen FAS - Yellowstone River

Central Fishing District



Central District

The Central Fishing District includes all waters in Montana east of the Continental Divide, (including the Belly and St. Mary's River drainages) and west of the following described boundary: Interstate 15 from the Montana-Canada border south to its junction with Hwy 2 at Shelby, then east on Hwy 2 to Chester, then south on Hwy 223 to State Hwy 80 at Fort Benton, then southeasterly along State Hwy 80 to its junction with State Hwy 81, then easterly on State Hwy 81 to its junction with U.S. Hwy 191, then northeasterly along U.S. Hwy 191 to its junction with State Hwy 19, then south on State Hwy 19 to its junction with U.S. Hwy 87 at Grassrange, then south on U.S. Hwy 87 to its junction with U.S. Hwy 12 at Roundup, then west on U.S. Hwy 12 to its junction with State Hwy 3 at Laramie, then south on State Hwy 3 to its junction with Interstate 90 at Billings, then easterly and southerly on Interstate 90 to the first crossing of the Little Bighorn River, then southerly along the west bank of the Little Bighorn River to the Montana-Wyoming border.

Note: Roadways that are used as boundaries between the Central and Eastern Fishing Districts are interpreted to be in the Central Fishing District.

For additional information regarding the boundaries in this fishing district, please call the following regional headquarters Monday-Friday 8:00 a.m. - 5:00 p.m.:

Billings.....	406-247-2940
Bozeman.....	406-994-4042
Butte Area Office.....	406-494-1953
Great Falls.....	406-454-5840
Helena Area Office.....	406-495-3260
Lewistown Area Office.....	406-538-4658
TTY (Telephone device for the deaf).....	406-444-1200

Region 3 FAS Coordinator – Ray Heagney

The Region Three FAS program made steady strides in completing a number of major and capital improvement projects.



Toston FAS Facelift in Progress

The Toston FAS received a facelift with an improved interior roadway and defined parking. Seven proposed capital improvement projects were scoped this past fall with all seven being funded.



New Automatic Gate at Cobblestone FAS

A new automatic gate was installed at Cobblestone FAS to streamline the opening and closing of the site during the summer season.



Clark Hoffpauer installing a fish screen on Widgeon Pond

Clark Hoffpauer, was hired to fill the FAS Maintenance Foreman position. His years of experience will greatly enhance the program as well as assist with regional fisheries projects. FAS staff assisted with two fisheries management projects this year one near Red Rocks and the other on the Big Hole.

Region 5 FAS Coordinator – Cleve Schuster

Arapoosh Fishing Access Site's Russian Olive/Salt Cedar Project



Arapoosh Fishing Access Site

This site features a small pond with Bass as the primary species and an aerator to prevent winter kill with access to the Big Horn River located 0.5 miles north of Hardin. Over the years Russian olive and Salt Cedar (Tamarisk) has completely surrounded the pond restricting fishing to several small watercraft launches. It has been a goal of mine to selectively remove the Russian olive to allow for better access to the pond. I was approached by Scott Bockness working with the Montana State University on a Conservation Innovation Grant (CIG) The intent of this project was to (1) perform a variety of herbicide and mechanical treatments on Russian olive and salt cedar to evaluate treatment efficacy, (2) collect baseline vegetation and soils information, (3) monitor project treatment sites to assess vegetative impacts and changes to plant communities, and (4) investigate the feasibility of bio energy production by conducting limited-scale invasive plant biomass processing. The first part

of the project was to be completed by September 1, 2013 the remainder of the project (Monitoring) is ongoing. To date the project area has come back with native grasses, the only noxious weeds have been a small patch of Canada thistle which we have been able to control.



Road Leading to Arapooish Fishing Access Site

Over the course of several years now as time allows we have been selectively removing and stump treating the Russian olive and treating and removing the Salt Cedar. So far as you can see we have had little or no re-growth and the native vegetation is filling in with little or no noxious weed infestations.

The crew size varies from a minimum of two to all hands on deck. The most efficient crew size is four, one sawyer, one person to keep area clear for the sawyer, one equipment operator and one truck and trailer operator. In the past we have chipped the slash up, however it is more efficient to haul it away. Russian olive is extremely hard on chipper blades and it costs \$60.00 per set to have the blades sharpened they will last approximately 10 hours of use when chipping Russian olive.

We are using chainsaws and a bobcat with a root grapple attachment and a dump-trailer to remove the Russian olive/salt cedar. The CIG project also used a tree shear. We are hauling the bio-mass to the Hardin landfill, (the landfill does not charge to take the bio-mass). Due to the distance from the regional office we have made arrangements with the power company to stage our equipment rather than have to haul it back and forth from Billings the power plant is gated and monitored 24 hrs/day

cutting down the travel to one ½ ton vehicle instead of two ¾ ton and one ½ ton. We have a 60 gal spray tank to stump-treat the Russian olive and salt cedar (the salt cedar plants are also completely treated top to bottom).

- The specific chemicals, methods, and rates to be used on the Arapooish project area are as follows:
- Salt cedar (basal bark treatments) – a 27% triclopyr ester (remedy) / 73% basal oil (v/v) mixture should be applied to the bark from the root collar up the stems 18 inches covering all sides/stems of the plant.

The benefits to this site have been

- Greater access to the pond, before work started bank fishing limited to launch areas only.
- Native plants are now able to re-establish themselves with the opening up of the canopy as well as removing the debris from around Russian olive.

The Clientele has changed; when the site was overgrown it had become a drinking/partying site, families were not able to enjoy the site because of the drinking. With the removal of the Russian olive and salt cedar it has opened up the “hidey-holes” and enforcement can now see into these areas where before they would have to drive right up on these individuals to catch them. The amount of trash has been reduced from a 55gal bag per day to less than one 55 gal bag per week.

Vandalism has drop off almost completely before vandalism was rampant up to and including the destruction of four “concrete picnic tables”, Vents being kicked out of latrines, doors shot up, toilet seats removed or damaged

In conclusion

We hope to have this project completed in three years barring flood, fire or other natural disasters. There are several other sites that have large Salt Cedar infestations and once we have completed the work here we will move on to the next one.

It is the goal of ours to have a follow-up inventory of the sites performed during the 2016 calendar year to evaluate the progress of our weed program.

FAS – EAST

Eastern Fishing District FAS Pictures



Twelve Mile Dam FAS - Tongue River near Miles City



Captain Clark FAS - Yellowstone River near Custer



Farwest FAS - Yellowstone River near Rosebud



Faber Reservoir FAS - south of Chinook



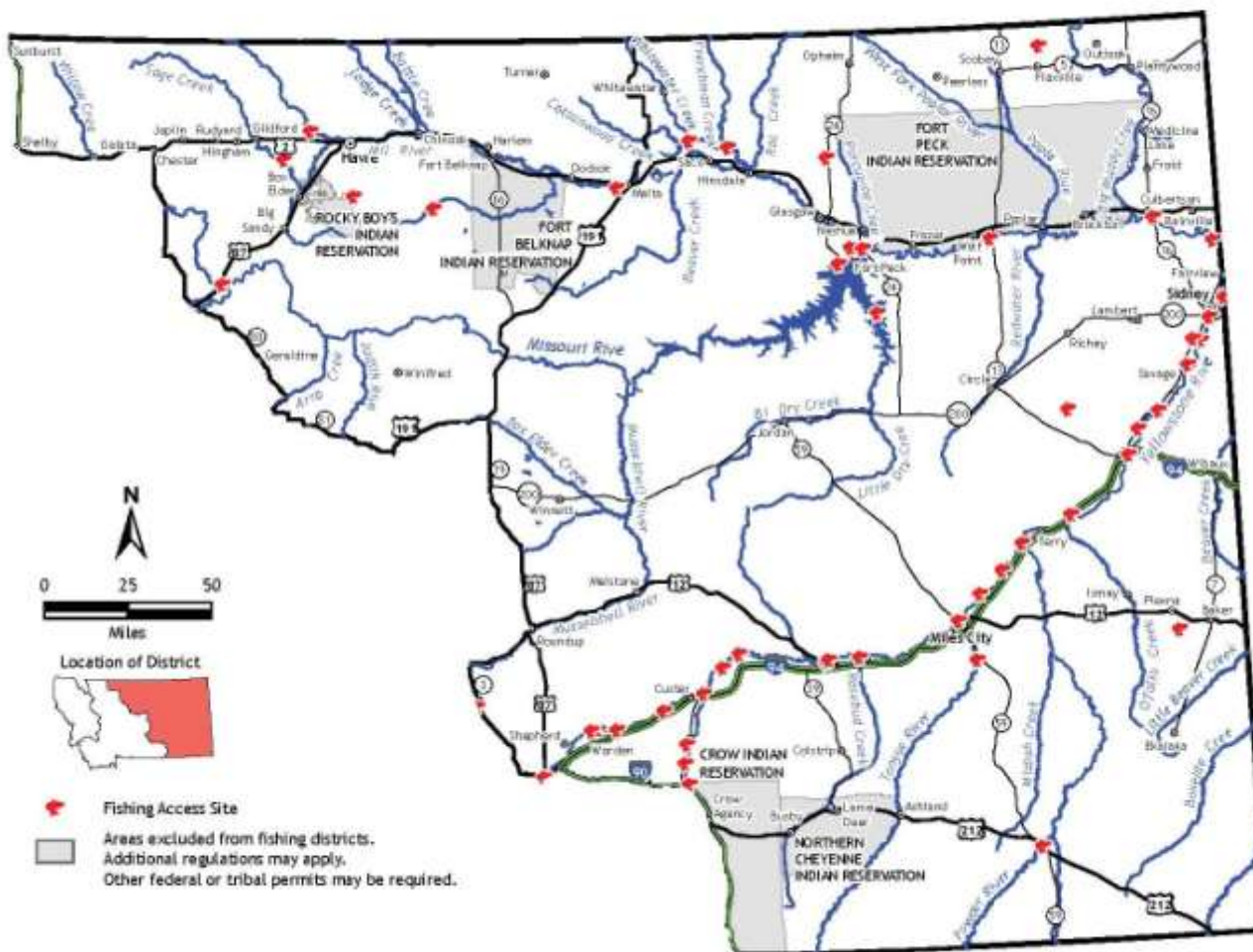
Fresno Tailwater FAS - Milk River west of Havre



Kinsey Bridge FAS - Yellowstone River near Miles City

Eastern District

Eastern Fishing District



The Eastern Fishing District includes all waters lying east of the Central Fishing District. For the boundary description, see Central Fishing District, page 25.

Note: Roadways that are used as boundaries between the Central and Eastern Fishing Districts are interpreted to be in the Central Fishing District.

For additional information regarding the boundaries of this district, please call the following regional headquarters Monday-Friday 8:00 am. - 5:00 pm.:

Billings.....	406-247-2940
Glasgow.....	406-228-3700
Great Falls.....	406-454-5840
Havre Area Resource Office.....	406-265-6177
Lewistown Area Office.....	406-538-4658
Miles City.....	406-234-0900
TTY (Telephone device for the deaf).....	406-444-1200

Region 6 FAS Coordinator – Woody Baxter

Rain, rain and more rain. For the last four years record high amounts of precipitation have fallen throughout the so called semi-desert area of northeastern Montana and the “Hi-Line.” With this increase of moisture, the Region’s FAS have been attractively green, and fire danger has been minimal. And of course, with the increase in water levels in the lakes and reservoirs, boat ramps and docks have been accessible in most cases. The negative side to the influx of water flow on the rivers has been the occurrence of flood damage to the grounds and facilities of some access sites. All damages were promptly fixed or replaced.



Landowner Jeanne Bailey Martin and FWP's Woody Baxter

One of the Region’s bigger success stories is the acquisition and development of Bailey Reservoir FAS, located 25 west of Havre, MT. Privately owned and built in the late 60’s, this 84 acre reservoir has been a popular fishing location for the folks of the Hi-Line and central Montana.



Bailey Reservoir Upgrades

Prior to discussions with Region 6 FWP staff, landowner Jeanne Bailey had been approached by several people wanting to purchase this valuable property. Several substantial offers were received from nonresidents that recognized the value of an exclusive prairie reservoir. Jeanne did not wish to sell to a private entity but rather wanted to work to ensure that her Dad’s dream of a public recreational site remain alive.

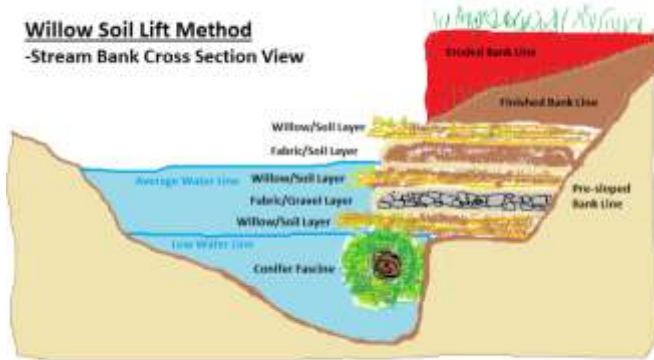
In September of 2012, FWP purchased 102 acres from the Bailey’s, and the following summer developed Bailey Reservoir FAS. With no regrets, there is only satisfaction when Jeanne Bailey sees another angler drive past her home on their way to enjoy the prospects of another day of fishing.

Region 6 FAS Coordinator – Cordell Perkins

Stream Bank Stabilization and Restoration at the 12 Mile Fishing Access Site

The Region 7 Fishing Access Site program teamed up with the local fisheries biologist Caleb Bollman, the heavy equipment operator class through Miles City Community College, several local Fish, Wildlife, and Parks Employees, several agencies and members of the community to engage in a soft armoring bank stabilization project at the 12 Miles Fishing Access Site (FAS). In the spring of 2011 the 12 Mile FAS experienced extreme high water events, causing flooding and accelerated bank erosion on a section of Pumpkin Creek (a tributary to the Tongue River).

The erosive forces caused the banks of Pumpkin Creek to move laterally. The lateral movement of the streambed completely cut into the access road to the 12 Mile FAS. Caleb Bowman and Miles Muscha, FAS Maintenance Supervisor, worked diligently to secure funding and partnerships to complete the ‘willow soil lift’ bank stabilization project on Pumpkin Creek during early spring of 2013. The objectives of the project were to repair access to 12 Mile FAS, reduce public safety risk, and restore the habitat through a natural bank stabilization method.



The willow soil lift method employs several layers of natural vegetation and material to encourage growth of natural biomass to stabilize the bank and create areas of deposition to decrease stream power and encourage natural recruitment of cottonwood trees along the bank. As the name of the technique implies, native willow tree species were cut along the Yellowstone River and kept dormant until they were planted on the stream bank of Pumpkin Creek. Through the hard work and dedication of each crew member on site the project was complete.



Pumpkin Creek May 31, 2011 at 1120 CFS

In the Spring of 2013, after the project was complete, Pumpkin Creek experienced another high water event due to continuous rain during a short time period. The newly constructed riverbank was put to the test. After the water receded it became evident that the objectives for the soil lift project were being realized.



Pumpkin Creek June 26, 2013 at 4 CFS

Safe passage into 12 Mile FAS was maintained, very low risk to the public is associated with the project riverbank, and the bank appears to be stabilized with areas of deposition and recruitment of cottonwood trees. The willow soil lift project on Pumpkin Creek is succeeding.



Pumpkin Creek October 3, 2013 at Less Than 1 CFS



**Montana Fish,
Wildlife & Parks**



Ling photo compliments of Missoula Mike



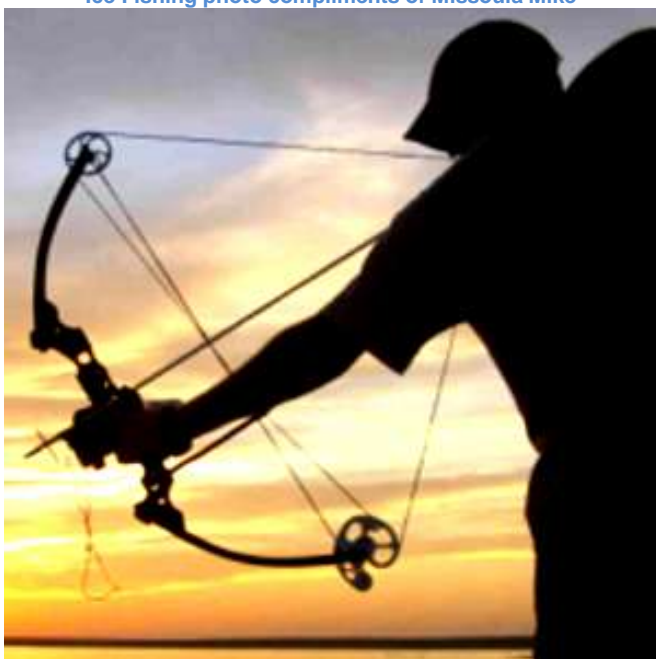
Sturgeon Gathering



Ice Fishing photo compliments of Missoula Mike



Misty morning fishing



Bow Fishing is popular in Montana



Yellow Perch photo compliments of Missoula Mike

2014 Annual Fishing Newsletter



Montana Fish, Wildlife & Parks

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Helena, MT 59620-0701